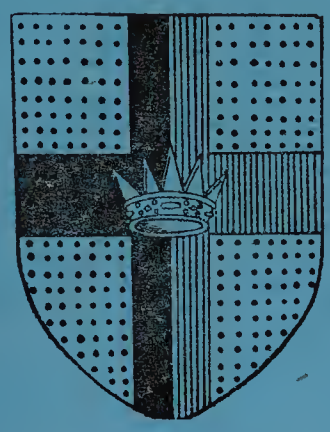

SARAWAK

MEDICAL AND HEALTH DEPARTMENT

ANNUAL REPORT

1964

PRICE: $1.50

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PART I

I. BACKGROUND INFORMATION

Sarawak occupies an area of about 47,500 square miles on the northwest coast of the island of Borneo. It lies between latitudes 0° 50′ and 5° North, and longitudes 109° 36′ and 115° 40′ East, and the territory occupies slightly less than a sixth of the island, which is the third largest in the world.

2. The climate is tropical, with a heavy rainfall, a uniform temperature, and a high humidity. From early October until the middle of February the north-east monsoon brings heavy rainfall, especially in the coastal belt. The rainfall averages between 150 and 180 inches in most areas, and the mean annual rainfall at Kuching is 158 inches. There is, however, normally between three to seven hours of sunshine, depending on the season. On the whole, the climate is a pleasant equable one, in spite of the tropical situation of the country. It is never cold, and although it can become moderately hot in the day-time the heat is only oppressive during periods of high humidity. The nights are generally cool. The temperature is uniform, varying between the mean maximum of 87.9°F and the mean minimum temperature of 72.5°F in 1959.

3. The total population at the census held in June, 1960 was 744,529. This showed an increase of 198,144 over the figure obtained at the previous census in 1947, i.e. an average annual increase of 15,242, during the thirteen years. Of the total population, 375,846 were males, and 368,683 females. The Sea Dayaks, with a population of 237,741, still form the largest single racial group, followed by the Chinese with 229,154, the Malays with 129,300, the Land Dayaks with 57,619 and the Melanaus with 44,661. Other indigenous races, totalled 38,931 and there were 1,631 Europeans. Since 1947, there has been a percentage increase of 57.9 in the Chinese population, compared with a percentage increase of only 24.9 for the Sea Dayaks, 36.6 for the Land Dayaks, 32.7 for the Malays and 25.6 for the Melanaus.

4. Malays, Kedayans, and many Melanaus profess the Muslim faith. There are a number of Christian Missions at work in Sarawak—Anglican, Roman Catholic, Methodist, Evangelical and Seventh Day Adventist. There are also small communities of Hindus, Buddhists, and Bahais. The 1960 census revealed that there were 174,123 persons professing the Muslim faith, 117,755 professing to be Christians, and 452,651 of the other religious beliefs.

5. Sarawak is divided into five Divisions for administrative purposes and each Division, which is headed by a Resident, is divided into Districts, each in the charge of a District Officer. The 1960 census showed that the population of the five Divisions was as follows:—

First Division	247,954
Second Division	109,422
Third Division	261,487
Fourth Division	96,666
Fifth Division	29,000

The Annual Report on the Registration of Births and Deaths for the year 1963, showed that, at the end of 1963, the estimated figures for the five Divisions, corrected for births and deaths, but excluding immigration and emigration, were as follows:—

	Males	*Females*	*Total*
First Division	140,253	136,321	276,574
Second Division	58,014	58,249	116,263
Third Division	140,846	140,878	281,724
Fourth Division	53,878	49,575	103,453
Fifth Division	16,070	15,653	31,723
	409,061	200,676	809,737

Including the balance of immigrants over emigrants, the total population as estimated on 31st December, 1963 was 809,737. At the end of June, 1964, the total estimated population was 819,808.

The control of local affairs in Sarawak is largely based on twenty-four fully elected District Councils which now cover the whole of the country. They play an important part in the organisation of primary education and certain health services as well as the duties normally associated with local authorities.

The District Councils elect representatives to five Divisional Advisory Councils which act as electoral colleges for the State Legislature or Council Negri. The latter now consists of thirty-six elected, three *ex offico* and three nominated members plus a Speaker. There is also an Executive Council known as Supreme Council consisting of the Chief Minister, five other ministers and three *ex officio* members. It is presided over by the Chief Minister.

Council Negri in turn elects twenty-four members to the Federal Legislature in Kuala Lumpur.

On September 16th 1963, Her Britannic Majesty relinquished her sovereignty over Sarawak and on that day Sarawak achieved independence and joined with North Borneo (now Sabah), Singapore, and the Federation of Malaya, to form the new nation, Malaysia. 1964 has therefore been the first full year of existence of the new nation, and of the Sarawak Medical Department's existence as a unit of the Federal Medical Department of Malaysia.

6. Of the total estimated area of 47,500 square miles about three-quarters is still covered by primary rain forest, and the remainder is mainly used for settled and shifting cultivation (six per cent and eighteen per cent respectively). Although Sarawak is basically an agricultural country, the soil is generally poor and shallow, some being extremely acid in reaction, and over much of the accessible part of the country the inherent poverty of the soil has been accentuated by wasteful practices associated with the cultivation of dry padi. The shifting cultivation of hill padi, as normally practised, results in reduced fertility unless the ground is allowed to lie fallow for approximately fifteen years after each crop.

7. The main cash crops are rubber, sago and coconuts, and a considerable proportion of the general revenue of Sarawak is derived from the export duty levied on rubber and pepper. There are also large and important forest reserves, and timber production ranks after agriculture as the most important economic activity carried on in Sarawak. The principal minerals known to occur in Sarawak are bauxite, now the main mineral export, oil which has been produced from the Miri oilfields for fifty-two years, but which is now decreasing in quantity, gold in small quantities, and coal. The last named is known to occur in payable quantities, but so far, lack of communications has discouraged its exploitation. The new road from Kuching to Simanggang passes within reasonable distance of one known coalfield, and this may encourage its development.

8. The staple diet of the population is rice, but the actual production of rice, in Sarawak is inadequate for its needs, and approximately half of the country's requirements is imported, mainly from Thailand. Other food crops such as tapioca, maize, yams, and sweet potatoes are used to supplement rice in the rural areas. A noticeable feature of the agricultural economy is the small number of livestock, and the almost entire absence of mixed farming. The few small herds of cattle which exist are mainly confined to the sandy coastal area, although buffaloes are moderately plentiful in the Fifth Division. The only classes of livestock kept in significant numbers are pigs and poultry.

9. Sarawak is a relatively healthy country by tropical standards. Bilharziasis, yellow fever, louse-borne typhus, plague and relapsing fever are not encountered nor has there been a case of smallpox for many years. Until 1961 cholera had not been reported for a great many years, but in that year, and recurrently in 1962, 1963 and 1964, outbreaks of cholera "El-Tor" have occurred. Due to the poor standard of environmental sanitation, however, dysentery and the enteric diseases continued to occur in distressingly large numbers. Leprosy is prevalent also, and endemic goitre occurs in the interior.

10. The policy of the Government in the field of public health, as enunciated in 1960, is as follows:—

> "Believing that good health is one of the most important assets of any community, it is the policy of Government to promote the health of all the people of Sarawak in so far as its financial resources will permit. This will be achieved by:
>
> (a) protecting the community against the common communicable diseases, by free protective vaccination and inoculation, and by such other methods as may be available from time to time;
>
> (b) educating the public in matters concerning the preservation of health and the avoidance of disease;
>
> (c) encouraging the establishment of maternal and child health services as a means of maintaining the health of mothers and children;
>
> (d) advising district councils in their efforts to improve the sanitary and living conditions of the people;
>
> (e) maintaining hospital and dispensary services for the effective treatment of the sick and injured;
>
> (f) providing a dental service complementary to the private practitioner service, with particular emphasis on the care of children."

11. More emphasis is being placed, each year, on the preventive aspects of the work of the department. Mass health campaigns, such as the Malaria Eradication Project, the Tuberculosis Control Project, and the campaign against Yaws, which was successfully completed in 1956, are already having a markedly beneficial effort on the general health of the population.

12. In the field of curative medicine hospital and dispensary facilities throughout the country have been steadily improved over the past five years. There are now four main general hospitals situated at the Divisional head-quarters towns of Kuching, Sibu, Simanggang and Miri, and a small divisional hospital at Limbang in the Fifth Division. There is also a forty-bed district hospital at Sarikei in the Third Division. In addition to these Government institutions there is a sixty-bed general hospital at Kapit, run by the Methodist Mission, and there are small mission hospitals, dealing almost exclusively with maternity cases, at Kanowit, Sarikei, Mukah, Long San, and Serian. Other hospital institutions run by the Government Medical Department are the Rajah Charles Brooke Memorial Hospital for patients suffering from leprosy, situated at the thirteenth mile, on the Kuching-Penrissen Road, and the Sarawak Mental Hospital, seven miles from Kuching. In all there are 1,005 general beds in Government hospitals and 143 in non-Government hospitals making a total of 1,148 general beds available for the population of 819,808. In addition there are 243 restbeds attached to the 35 static dispensaries run by the Medical Department.

13. There were 19 private medical practitioners on the register in Sarawak at the end of the year, in addition to 25 government doctors, 8 Shell Oilfields doctors, 4 Mission doctors and one Peace Corps doctor.

14. There were six Government dental officers, and 137 private dentists on the register at the end of the year, but of the latter only 3, including one employed by the Shell Oilfields Limited, possessed degrees or diplomas scheduled under the Dentists Registration Ordinance, the others being registered under a special provision of the Ordinance.

15. Outside Government Service, there was only one qualified pharmacist in Sarawak attached to the Methodist Mission hospital in Kapit. 87 annual licences to sell poisons on a restricted basis were issued to business concerns during the year.

16. The number of midwives registered under the Midwives Ordinance was 435 of which 143 were in Central and 144 in Local Government employment.

17. The total sum estimated for recurrent expenditure in the State of Sarawak by the Medical and Health Department during 1964 was $9,646,106. This sum, which is now derived entirely from Federal sources, compares with the actual recurrent expenditure during 1963 of $7,902,920 and represents 18.2 per cent of total estimated Federal expenditure in Sarawak for the year.

In addition the sum of $3,921,405 was provided from Federal funds for Development Expenditure during the year, compared with $2,893,887 in 1963, and the sum of $254,433 for Capital Expenditure compared with the 1963 figure of $248,100.

II. GENERAL REVIEW

18. The first full year of operation of the Medical Department, as a unit of the Federal Medical Department of Malaysia was on the whole a smooth one, in spite of inevitable "teething troubles" until channels of correspondence and other such details were worked out. Major policy decisions and the financing of the department are the direct responsibility of the Minister of Health in the Malaysian Federal Government. The routine administration of the department together with the preparation of policy proposals for consideration by the Minister, and the execution of policy once it has been decided, remain the responsibility of the Sarawak Medical Department. At the Second Conference of Malaysian Directors of Medical Services held in Singapore on June 25th to 27th 1964, it was agreed that the Director of Medical Services Malaya should also act in the dual capacity of Director of Medical Services Malaysia, in so far as the following matters are concerned:—

(a) Interstate and International health matters:

(b) the co-ordination of Malaysian States medical and health activities with the object of achieving uniformity of action and approach:

(c) the development of uniform and improved standards of professional and technical work:

(d) the promotion of research on a Malaysian basis:

(e) the promotion of education and training for all types of medical and health personnel: and

(f) the collection and dissemination of statistical data and other information on the health status of Malaysia.

This arrangement will continue until such time as the need for a separate Technical Adviser to the Ministry of Health becomes evident.

One of the inevitable results of Malaysia has been the loss to the department by retirement under the Scheme for Retirement Benefits of a number of expatriate officers, including a senior medical officer, a leprosy superintendent, a midwife tutor and a nurse tutor.

19. Unfortunately, since the advent of Malaysia, Indonesia which occupies the adjoining territory of Kalimantan, has adopted an ever-increasingly aggressive policy of "Confrontation" which has led to numerous border incidents. As a result several thousand Security Forces from Malaysia, the United Kingdom and other Commonwealth countries have had to be brought into the state to preserve its boundaries from incursions, and to protect the population of the border areas from acts of aggression and terrorism. The situation has been further aggravated by the presence in certain areas, of a hard core of communist supporters who form an organisation known as the Clandestine Communist Organisation (C.C.O.). The frequent border clashes with Indonesian-based terrorists have led to casualties, both in the Security Forces and the civilian population. The medical care of these, together with the care of the normal daily wastage of sick amongst the troops has placed a considerable strain on the hospitals in Kuching, Simanggang and Sibu. Ward accommodation has been made available to the British Forces in Kuching and Sibu Hospitals, and Army medical and nursing personnel have been provided to run these wards. The co-operation between the Service medical and nursing personnel and all members of the department has been excellent

and great help has been received from all Army medical units in the treatment of civilians, both in hospitals, and in rural areas. Service medical personnel have been at pains to give whatever help they could even in the most remote *kampongs* and longhouses, and on many occasions have evacuated seriously ill patients by helicopter, to the nearest hospital. They have gained the admiration and affection of the local people, and the respect and thanks of all members of the Medical Department. Drugs and dressings have been supplied from the Government Central Medical Stores to compensate the Army medical units for the use of Army supplies in treating civilian patients.

One of the most unfortunate results of the border troubles has been the restriction of movement in border areas for security purposes. Curfews are in force in certain areas and these, together with the generally unsettled conditions and the presence in these areas of large forces of men, have seriously interfered with the Malaria Eradication Project. Here again, Army medical personnel are co-operating by collecting blood slides and treating suspected cases, and increased co-operation in this line is planned for 1965.

20. In spite of the difficulties caused by confrontation, including restriction of movement in the State, and the need of the Central Government to expend large sums of money on defence requirement, the new Development Plan which started during the year, made considerable and steady progress. Funds for the Development Plan are also derived from Federal Government Sources and the sum allocated to the Medical Department for 1964 was $3,921,405 out of a total of $19,519,425 for the whole period 1964—1968.

Schemes continuing from the previous Development Plan 1959—1963, included the Malaria Eradication Project, the Tuberculosis Control Project and the Rural Health Improvement Scheme. Major importance has been given in the new Plan to these projects, and to others which will benefit the rural areas particularly, such as the construction of new local hospitals and rural treatment centres, and the School Dental Service. The single largest item in the whole plan is the new Sarawak General Hospital, to be build in Kuching, and planned to provide specialist services and training facilities for all categories of nursing and para-medical staff for the whole State. The sum of $13,500,000 has been provided for the building of the first phase of the new hospital.

During the year plans were drawn up for the incorporation of the new 1964—1968 Development Plan into the First Malaysian Development Plan, 1966—1970. New schemes covering the year 1969 and 1970 have been proposed, in addition to the continuation of some of the 1964—1968 schemes. Final approval of the new Plan is still awaited.

21. The cholera outbreak which occurred during 1963, finished at the end of December that year, and Sarawak was declared free from the disease on January 25th 1964. However one more case occurred in the First Division in April, and in May, four days after Sarawak had again been declared free, the disease was confirmed in the Third Division and later in the 2nd and 4th Divisions also. By 5th December, when the State was finally declared free from cholera, there had been 196 cases with 33 deaths. These sporadic outbreaks of "El-Tor" cholera have remained an administrative anxiety throughout the year and have entailed a diversion of staff and resources to control them. Details of these outbreaks will be found later in paragraphs 64 and 65 of this report.

22. There were some initial delays in the implementation of the building programme, during the early months of the year, for various reasons including siting of new buildings, land acquisition, etc. However good progress was made later, and by the end of the year work had commenced in respect of nearly all schemes, and was considerably advanced in many. Final plans and working drawings for the new Sarawak General Hospital were completed, and by the end of the year tenders had been called for. Work is expected to commence during the second half of 1965. Meanwhile, extensions to the Nurses Home, which form part of the new hospital scheme, were continued and should be completed during the next year or two.

Two new local hospitals at Lundu in the First Division, and Marudi in the Fourth Division were almost completed by the end of the year and should be ready for occupation during 1965. The building of static dispensaries at Pantu, Skrang, Long Linau and Nangga Medamit was also well in hand, and a fifth at Tatau was out to tender at the end of the year. Replacement dispensaries were also built at Lubok Antu and Sebuyau in the Second Division. New dental clinics were under construction at Simanggang and Limbang at the end of the year, but the third at Sibu, was held up due to a change in siting and consequent delay in completion of sketch plans. The tender for a new Divisional Medical Store at Simanggang was awarded in November, and the building is due for completion in the middle of 1965.

Other building works at the planning stage at the end of the year included an extension to Limbang Hospital, and an extension to the Maternity ward at the Lau King Howe Hospital, Sibu.

III. VISITORS

23. The department has continued to receive visits and advice from officials of various international agencies, particularly W.H.O. and U.N.I.C.E.F. Many of these have been in connection with the Malaria Eradication Project, and we have also been privileged to welcome several members of the staffs of malaria projects in neighbouring territories, sent by W.H.O. to observe the progress of the Sarawak Project. W.H.O. and U.N.I.C.E.F. visitors have included:—

Dr. W. W. Yung	— W.H.O. Representative to Malaysia.	
Dr. A. A. Angara	— W.H.O. Regional Adviser on Public Health Administration.	
Professor C. Y. Chow	— W.H.O. Regional Entomologist.	
Dr. C. T. Chen	— W.H.O. Regional Malaria Adviser.	
Mr. Charles Yong	— U.N.I.C.E.F., Bangkok.	
Dr. M. di Ioria	— Malariologist	Sabah Malaria Project
Dr. F. Y. Cheng	— Entomologist	
Mr. N. H. Lim	— Sanitary Engineer	
Mr. L. G. Lawrence	— Sanitarian	

24. The following visitors were also received by the department during the year:—

Mr. Paul Brand, C.B.E., F.R.C.S.	—	Surgeon at the Christian Medical Centre, Vellore, S. India.
Mr. A. Vaidyanathan	—	U.N. Deputy Regional Representative for S.E. Asia.
Mr. R. G. Norris	—	Director of Chemistry, Federation of Malaya.
Mr. Guy Hunter	—	Adviser on "Manpower" to Join UNESCO/IAV Programme in Higher Education, University of Malaya.
Dr. G. B. Bracher	—	Medical Co-ordinator, Peace Corps Training Centre, University of Hawaii.
Dato Abang Haji Openg	—	His Excellency the Governor of Sarawak.
Mr. S. Kawano Mr. S. Sasaki Mr. H. Tukushi Mr. S. Mochihara	}	Members of the Japanese Mission Team.
Enche' Bahaman bin Shamsuddin	—	The Hon'ble the Minister of Health, Malaysia.
Dato (Dr.) M. Din	—	Director of Medical Services, Malaya.
Dr. J.H.S. Pettit	—	Leprosy Research Unit, Sungei Buloh.
Mr. G. A. Meyers, F.R.C.S.	—	Surgical Specialist, Sabah.
Mr. Harold Silcox Dr. Charles S. Stein	}	CARE/Medico, Malaya.

25. Several visits have also been paid by senior officers of the Armed Forces, including:—

Major General W. C. Walker, C.B., C.B.E., D.S.O.	—	Director of Borneo Operations.
Lieutenant General A. Jolly, C.B., C.B.E., D.S.O.	—	Army Commander.
Major General W. A. Robinson, C.B., O.B.E., Q.H.S., M.D.	—	Director of Medical Services, FARELF.
Brigadier R. Wheatley, D.S.O.	—	Consultant Surgeon FARELF.
Brigadier T. P. H. McKelvie, M.A., M.B., M.R.C.P.	—	Consultant Physician FARELF.

IV. STAFF

26. The Senior Staff of the department as on the 31st December, 1964 was as follows:—

Designation	*Establishment*	*Actual*	*Remarks*
Director of Medical Services ...	1	1	—
Deputy Director of Medical Services	1	1	—
Assistant Director of Medical Services	2	2	One Acting Appointment. One Supernumerary.
Principal Matron	1	1	—
Ophthalmic Specialist	1	1	Kuching.
Surgical Specialists	3	3	Kuching, Sibu and Miri.
Psychiatric Specialist	1	1	—
Medical Specialist	1	1	Kuching.
Pathologist	1	—	—
Senior Medical Officers	3	2	One acting A.D.M.S.
Medical Officer	23	14	Two Temporary.
Dental Officers	6	6	—
Superintendents	10	8	1 Sarawak Mental Hospital. 1 Central Medical Stores 3 Health Superintendents. 1 Laboratory Superintendent. 2 Malaria Superintendents.
Hospital Administrators	2	2	1 R.C.B.M. Hospital. 1 Sarawak Mental Hospital.
Radiographer	1	1	Kuching.
Matrons	2	2	—
Sister Tutors	2	2	—
Health Sisters	5	3	Plus one Health Visitor acting as Health Sister.
Almoners	1	1	—
Nursing Sisters	24	21	Two temporary.
Charge Nurse	1	1	Sarawak Mental Hospital.
Pharmacist		—	—
Physiotherapist	1	1	—
Administrative Assistants	3	3	—

27. The Acting Deputy Director, Dr. M. T. Read proceeded on pre-retirement leave on November 2nd 1964, and was succeeded by Dr. M. A. Rozalla, Assistant Director of Medical Services in an acting capacity. The post of Assistant Director of Medical Services was filled in an acting capacity also, by Senior Medical Officer, Dr. G. T. Balean.

28. 1964 proved to be a very poor year as far as the recruitment of Medical Officers was concerned. One senior medical officer, the pathologist and four medical officers left the service, and only two medical officers were recruited during the year, to replace them. As a result there were twelve vacant posts at the end of the year, but news had by then been received that three local doctors who had completed their training overseas, were returning to Sarawak at the end of December and would be commencing duty early in 1965. There was also news of the probable recruitment of two doctors in the United Kingdom, so it is hoped, that the position will improve during 1965. The scheme whereby young doctors have been brought out from the United Kingdom on six months' contracts continued to work satisfactorily during the year and at the end of 1964 there were two such doctors serving in the country.

29. Due to the shortage of doctors, which became particularly acute about the middle of the year, following the departure of three experienced officers, a considerable strain was placed on the depleted establishment of medical officers remaining, but despite this, the medical services throughout the country were continued without curtailment, as a result of the hard work and devotion to duty of those remaining. They deserve great credit for their efforts during this difficult period.

30. Two expatriate dental officers were recruited early in the year, thus filling all available posts on the establishment. One local dental officer was awarded a Colombo Plan scholarship during the year, to take the D.D.P.H. course in Canada.

31. There have been losses and gains of senior nursing staff during the year, but by the end of December the position had improved to the extent that there were vacancies for only two Sister Tutors, two Health Sisters, and three Nursing Sisters.

V. TRAINING

(a) Overseas

32. During the year nine members of the departmental staff returned to duty, having completed the following courses overseas:—

Course	*Number*	*Where taken*
Ward Sisters' Course	1	United Kingdom
Psychiatric Nursing	3	New Zealand
Leprosy	1	Hong Kong
Malaria Epidemiology	1	Manila
Malaria Parasitology	2	Manila
Histopathological Techniques	1	Kuala Lumpur

Three general nursing students in the United Kingdom successfully completed their basic training and became State Registered Nurses. They will be entering further courses of training, in orthopaedic, ophthalmic and paediatric nursing before returning to Sarawak.

33. In addition there were a further forty-six Government sponsored students and twenty-nine serving officers undergoing training in medical or para-medical subjects at the end of the year as shown in the following table, making a total of seventy-five in all:—

Course	*United Kingdom*	*Malaya or Singapore*	*Colombo Plan Countries*	*Total*
Medicine	1	—	23	24
Dentistry	—	3	3	6
Pharmacy	—	1	4	5
Dental Nursing	—	—	8	8
Public Health Nursing	—	1	—	1
General Nursing	16	—	—	16
Psychiatric Nursing	4	—	—	4
Social Welfare	—	2	—	2
Physiotherapy	1	—	—	1
Diploma of the Institute of Medical Laboratory Technology	3	—	—	3
Health Inspectors	—	—	—	—
Hospital Administrator	1	—	—	1
Radiography	—	—	2	2
Dispensing	—	—	1	1
Artificial Limb Manufacturing	—	1	—	1

34. As in previous years considerable help has been received from the Colombo Plan Organisation in the form of scholarships for the training of staff of many categories. New Zealand, Australia and Canada have been particularly generous in this respect and there were no fewer than 30 students studying in these countries at the end of the year. Since the formation of Malaysia also, there has been an increase in the number of men and women sent to Malaya and Singapore for training. For instance, all student dental nurses are now trained in the dental nurse training schools in Singapore and Penang, whereas formerly, all were sent to New Zealand. However, the latter country still maintains a close interest in the expanding school dental service in Sarawak, and is making available the services of a Dental Nurse Supervisor, early in 1965, to help train a senior dental nurse, here, as a future Supervisor.

35. Fellowships were provided by the World Health Organisation, and other course of training arranged, as under:—

1. For a Medical Officer to attend a course in malaria epidemiology in Manila, Philippines.
2. For a Medical Officer to obtain the M.P.H. qualification in U.S.A. followed by a study tour of public health services in various territories.
3. For two sub-professional staff to attend a course in parasitology in relation to malaria eradication, in Manila, Philippines.

It is, however, pleasing to report that Sarawak has been able to provide facilities for the training of W.H.O. personnel from elsewhere in the Region, and one Fellow from Vietnam studied entomological techniques in connection with the Sarawak Malaria Eradication Project, during the year. Visits were also paid by W.H.O. personnel attached to the Sabah Scheme, to study techniques and procedures in use here.

36. The Director of Medical Services attended the 15th Session of the World Health Organisation Regional Committee for the Western Pacific in September, the Assistant Director attended a Seminar on the Control of Cholera and the Assistant Director (Supernumerary) attended a Seminar on National Health Planning, all held in Manila, Philippines, during the year.

(b) Local

37. Training of staff of various categories in Sarawak, has continued to occupy an important place in the activities of the Department.

18 student nurses passed the final qualifying examination during the year.

16 trained nurses passed their midwifery examination during the year, having completed the one year's training course.

15 pupil midwives passed the midwifery examination during the year, having completed the two years training course in midwifery.

4 laboratory technicians passed their final qualifying examination during the year.

10 rural health supervisors passed their final examination, after their nine months course of theoretical and practical instruction.

38. At the end of the year the following staff were in training:—

109 student nurses and hospital assistants.

15 trained nurses undergoing midwifery training.

36 pupil midwives.

14 student laboratory technicians.

6 student dispensers.

5 student health inspectors.

VI. DEPARTMENTAL AND DIVISIONAL ORGANISATION

39. The Medical Department is under the overall control of Medical Headquarters in Kuching which is staffed by the Director, Deputy Director, Assistant Director (Health), Principal Matron and WHO Senior Malaria Adviser, together with an office staff of seventeen persons. In each Division there is a Divisional Headquarters in the charge of a Divisional Medical Officer who is in administrative charge of all medical and health activities in his Division. He is in some cases assisted by a health sister, a senior member of the health inspectorate, a senior hospital assistant who supervises treatment centres, and a malaria technician. There are also several independent Sections of the department each in charge of an officer, directly responsible to the Director of Medical Services. These are

the General Hospital, Kuching (later to be re-named the Sarawak General Hospital, when re-built), the Central Pathological Laboratory which, through subsidiary laboratories in each division, serves the whole country, the Central Medical Stores section, the Dental section, the Opthalmological section, the Mental Health section, based on the Sarawak Mental Hospital, and the Leprosy section based on the Rajah Charles Brooke Memorial Hospital.

40. During the year Divisional Medical Officers' conferences were held on two occasions, from February 5th to 10th and from September 24th to 28th. At these conferences matters of policy and administration were discussed and decisions reached which were later implemented at divisional level. The heads of the various departmental sections listed in the last paragraph were invited to attend and assist in the discussions, whenever it appeared that their particular knowledge or experience of any subject under discussion would be of help to the conference.

41. In conjunction with the Divisional Medical Officers' Conferences, meetings of various other standing committees were held, and also sessions on malaria and tuberculosis. The standing committees are the Departmental Committee for Education and Training whose responsibilities embrace the planning and supervision of all training of staff in the department, the Departmental Promotions Board which makes recommendations to the Public Service Commission for the promotion of all staff, and the Departmental Drugs and Equipment Committee whose duties are concerned with making recommendations regarding the drugs and equipment which are used by the Department. At the special malaria and tuberculosis sessions, reviews of progress were made, and technical details and problems discussed. In this way, the Divisional Medical Officers are kept up-to-date with the progress of the two projects throughout the country, and have an opportunity of discussing their problems with each other, and with the technical advisers attached to Medical Headquarters.

VII. PREVENTIVE AND SOCIAL MEDICINE

Public Health

42. In the urban areas the responsibility for the maintenance of a satisfactory standard of environmental hygiene rests with the local authorities through their health inspectors. The Divisional Medical Officers act as advisers to the local authorities and where a Senior Government health inspector is available, he supervises and gives advice to the local authority health inspectors in the Division. Co-operation between them has been close. In the First Division this co-operation has been strengthened by means of monthly meetings of health inspectors from each local authority, at which the Minutes of Local Authority Health Committee meetings are considered and discussed.

43. The application of the Food and Drugs regulations which were made under Section 116 of the Public Health Ordinance (1963) threw much additional work on the staffs of the Divisional offices and especially in the First Division where considerable quantities of imported foods are shipped through Kuching.

44. The pit latrine project in the First Division continued to make very good progress, and the health education provided under the Rural Health Improvement Scheme resulted in a much greater demand for pit latrines by householders, who dig the latrines themselves, under the supervision and guidance of health

inspectors and rural health supervisors. The Medical Department provides drums for revetting the walls of the pits, and also issues precast concrete squatting slabs, on permanent loan. The number of pit latrines constructed during the year, was much greater than in 1963, and a number of kampongs now have a latrine to each family unit.

45. Protective immunisation against diphtheria, tetanus and whooping-cough continued to be provided in all Maternal and Child Health clinics, and free vaccination against cholera and smallpox was also available at all Government medical centres in the country. Free vaccination against polio-myelitis using the Sabin oral vaccine has also been available. A large number of cholera vaccinations were given during the year, for prophylactive purposes, in areas where cases of the disease had occurred, and also for the benefit of persons wishing to travel outside the country. Special precautions were taken in the case of pilgrims proceeding to Mecca. All received cholera vaccinations. In addition, with the approval of the Mufti and the President of Majlis Islam, letters of advice on how to avoid infection at their various ports of call were given to all pilgrims. Of 103 prilgrims who made the pilgrimage only one person, a very old man, died. On their return 63 pilgrims voluntarily provided stool specimens for culture and all proved negative for cholera vibrios.

46. The incidence of diphtheria in all Divisions was low during the year. Only 65 cases were notified throughout the State compared with 217 the previous year. Though this reduction may in part be due to a normal fluctuation in incidence, the mass innoculation campaigns which have been carried out in various parts of the country during the past year or two, have undoubtedly played their part also.

47. Valuable assistance in the immunisation programme was provided by U.N.I.C.E.F. who donated 35 kerosine refrigerators in 1963. These have since been distributed to rural dispensaries and Local Authority Maternal and Child Health Clinics for the storage of vaccines, and have thus enabled the programme to spread to areas previously not covered.

Health Education

48. During the year, especially in the First Division, much emphasis has been placed on health education by means of a wide distribution of posters, circulars and pamphlets on matters of personal and environmental hygiene. These have been distributed through the agency of Hospital Assistants in the rural dispensaries, Rural Health Supervisors, Local Authority Health Inspectors and Midwives, and through the co-operation of V.S.O. and Peace Corps personnel, and Women's Institutes, etc. The Security Forces also co-operated. During the cholera outbreaks also, the opportunity was taken to emphasise the necessity of personal and environmental hygiene and general cleanliness, by all members of the department who came into daily contact with the people.

Maternal and Child Health Services

49. During the year the last of the M.C.H. clinics run by the Government Medical Services were handed over to the appropriate Local Authorities, with the exception of a mobile clinic staffed by Government midwives, which is based on Kuching and operates in the rural areas around the capital. As more and more clinics are set up in these areas, by the Kuching Rural District Council, the need for this mobile clinic will gradually disappear. The training of staff for all Local Authority clinics still remains in the hands of the Medical Department

however, and in order to meet the increasing demands for trained staff, a new Midwives' Training School was set up in Sibu towards the end of the year, in the charge of a Nursing Sister acting as Midwife Tutor. Plans have been drawn up for the building of new teaching and hostel accommodation for the student midwives, under the current Development Plan.

The larger Municipal and Urban District Councils such as the Kuching Municipal Council and the Sibu Urban and Sarikei District Councils, now employ their own trained senior health staff to run their clinics and domiciliary midwifery services. Small Authorities staff their clinics with domiciliary midwives trained in the Government Training School. Most Authorities have now provided their own accommodation for the M.C.H. clinics, though this is in some cases of a temporary character, and due for replacement at a later date, by new premises designed for the purpose. The Central Clinic of the Kuching Municipal Council is still occupying part of the Government Health Centre, but plans are being prepared for the construction of a new K.M.C. Clinic in 1965, in a central site nearby.

The Medical Department continues to supply, without repayment certain drugs and medical supplies to these clinics. U.N.I.C.E.F. has continued to give generous assistance in the form of equipment for new clinics and teaching equipment for the new Sibu Training School, in addition to large quantities of dried, powered skim milk for use in schools and clinics, and Vitamin A-D capsules for use in Maternal and Child Health clinics.

Supervision of all Local Authority M.C.H. Clinics and the staff concerned is undertaken by the Divisional Health Sisters who have been posted to the various Divisional Medical Offices.

VIII. EPIDEMIC AND ENDEMIC DISEASES

(a) Malaria

50. The Sarawak Malaria Eradication Project continued with its activities, as in the previous year, despite Indonesian confrontation. Though security precautions were present in the border area, the localities concerned were visited with the assistance of the security forces there. However, surveillance measures in the border area were of necessity limited, and residual spraying had to be reduced to one cycle per year. An added problem was the influx of refugees from across the border, whereby the risk of importation of malaria was greatly increased. However, a close watch was kept for such immigrants, and prompt measures were applied as soon as they were contacted. In the rest of the State surveillance activities continued according to plan, and areas in the attack phase (outside the border area) received two cycles of residual spraying with D.D.T. during the year. Several new foci of infection were detected and dealt with, the three most serious being those at Merapok and Limbang in the Fifth Division, and Mukah in the Third Division. The emphasis on passive case detection was maintained, particularly in consolidation and maintenance phase areas.

51. Training continued during the year with refresher courses for various categories of the Project staff, including spraymen, canvassers, and investigators. Also a special course of training lasting two months was held for twelve investigators. Two microscopists were awarded World Health Organisation Fellowships for training in parasitology lasting one month at the Malaria Eradication Training Centre in Manila. Also one medical officer was awarded a Fellowship by the World Health Organisation for a course of training in Malaria Epidemiology lasting two weeks, held at the same Centre.

52. The Project continued to receive International Assistance from the World Health Organisation in the form of advisory services, funds for local costs, supplies and equipment. The World Health Organisation Advisory Team in Sarawak consists of a malariologist, an entomologist, and a sanitarian. A great deal of valuable assistance in the form of supplies and equipment was also received from UNICEF. The Project was visited by several World Health Organisation Regional Advisers and Fellows during the year.

53. The Project is described in greater technical detail, together with relevant statistics, in Part II of this report.

(b) Tuberculosis

54. The Tuberculosis Control Project continued to make progress in Kuching and in Sibu, in spite of minor interruptions to activities when the Project staff were called upon for special duty in cholera-infected areas. During the year the Project was extended to the Second and Fourth Divisions of the State. In the Second Division the staff concentrated their activities in the town area of Simanggang, which is the Divisional Headquarters. In the Fourth Division the same principle was applied and the staff confined their activities to the Miri urban area. In the First Division activities were extended to the Serian District, though work was interrupted due to security precautions taken in the area. However, the staff concerned managed to cover a number of schools in the Serian District. A certain amount of work was also carried out in the Batu Kawa and Matang areas of the First Division. In the Third Division activities continued in the Sibu urban area which was completely covered by the end of the year.

55. The course of training for nineteen Assistant Health Visitors which commenced in November, 1963 was completed at the end of March, 1964. The Colombo Plan Nursing Sister visited all four divisions covered by the Project, thus maintaining a close supervision of the work carried out in these divisions. The Colombo Plan Nursing Sister, having completed her assignment in Sarawak left for Australia in October, 1964.

56. The Project continued to receive Colombo Plan aid from Australia in the form of the continued assistance of the Nursing Sister referred to in the preceding paragraph. In addition the Colombo Plan consultant Sir Harry Wunderly gave his advice on technical problems met with during the year.

57. During the year the construction of two quarters were completed in Simanggang. One of these quarters is used as a Chest Clinic, which serves as a base for the Tuberculosis Control Project in the Second Division. The other quarter is used as a transit hostel for Assistant Health Visitors working in the Division.

58. The Project is described in greater technical detail, together with relevant statistics, in Part II of this report.

(c) Rural Health Improvement Scheme

59. This scheme continued to make good progress since its inception in March, 1963. The new batch of ten trainees from the Serian District, recruited in December, 1963, completed their course of training in August, 1964. They commenced work immediately in the Serian District, and were mainly connected with the new land re-settlement schemes in that district.

60. The trained rural health supervisors continued to work in close co-operation with the agricultural extension workers. Each has a number of kampongs, numbering five to seven in his area, where a satisfactory form of environmental sanitation is gradually instituted, with the co-operation of the kampong people. The improvement in sanitation is introduced and maintained on a "self help" basis.

61. Plans for the construction of a relatively simple type of accommodation for the trained rural health supervisor were agreed upon during the year, and provision was made for the construction of eleven such quarters in early 1965. Each of these low cost quarters contains two bedrooms, a combined sitting room and dining room, and a kitchen. There are also facilities for washing and bathing, and each quarter has its own latrine accommodation.

62. During the year a large amount of supplies and equipment was provided by UNICEF for use in the training of rural health supervisors, and also when they had completed their training.

63. The scheme is described in greater detail together with relevant statistics, in Part II of this report.

(d) Cholera

64. Following an outbreak of this disease which commenced in 1963, the Government of Sarawak declared the State free from cholera on 25th January, 1964. The disease recurred briefly in April, 1964 when one case was reported from the Kuching District of the First Division. There being no further cases the State was declared free of the disease on 7th May, 1964.

65. Unfortunately this happy state of affairs was interrupted by the occurrence of a severe outbreak of cholera affecting the Second, Third, and Fourth Divisions. The first cases were notified from the Kanowit District of the Third Division on 11th May, 1964. In the weeks that followed the disease spread up the Rejang River to the Kapit District and down river to the Sibu District. Later cases were reported from the Sarikei, Mukah and Binatang Districts of the Third Division. On the 7th July, 1964 the first notification of cases in the Bintulu District in the Fourth Division was received in Medical Headquarters, followed by the occurrence of cases in the Miri District of the Fourth Division. Then on the 29th August, 1964 cases were reported from the Saribas District in the Second Division. The cases in the Second and Fourth Divisions were of a sporadic nature. The usual measures were employed to bring the disease under control and Government was able to declare the State of Sarawak free from infection on 5th December, 1964. In the second outbreak a total of 196 cases of cholera occurred, and this included 33 deaths. The total of cases for the year was therefore 197 including 33 deaths.

(e) Leprosy

66. During the year, visits to the hospital were paid by Professor Paul W. Brand of Vellore, South India, who lectured to the staff and also demonstrated reconstructive surgery, and by Dr. J. S. Pettit of the Leprosy Research Unit, Sungei Buloh Leprosarium, Malaya, who submitted an interesting and useful report on several aspects of leprosy in Sarawak.

67. The treatment of patients at the Rajah Charles Brooke Memorial Hospital continued to follow the regime described in the 1963 Annual Report, namely D.P.T. for about 18 months plus inunction with Etisol, followed by Sulphone (D.D.S.). However, following Dr. Pettit's visit and the recommendations made by him, treatment with D.P.T. has now been stopped, except for cases showing sensitivity or resistance to D.D.S. Routine treatment is now confined to D.D.S. alone, in most cases, and this has led to a considerable saving in expenditure on drugs.

68. With a view to expanding the leprosy services in the State, and organising a system of out-patient treatment of patients, following an initial six months' stay in hospital, a post has been included in the 1965 estimates for a medical officer for leprosy work.

69. An account of the work done at the Rajah Charles Brooke Memorial Hospital during the year can be found in Section X, Special Hospitals.

(f) Endemic Goitre

70. Iodised salt for the prevention of endemic goitre has continued to be distributed throughout the Third Division from the Salt Iodisation Plant in Sibu, which iodised over 900,000 lbs. of salt during the year. Plans for the establishment of a similar plant in Kuching, to cater for the First and Second Divisions, were drawn up during the year, and this should come into operation during 1965.

(g) Dysentery and Enteric Fever

71. Dysentery and diarrhoea and the many forms and varieties of gatro-intestinal diseases, have continued to be the greatest cause of morbidity in the country. Typhoid fever continues to be endemic, and there were 248 cases recorded during the year, in the morbidity returns from the Government hospitals. Half of these were admitted to the Lau King Howe Hospital, Sibu, in the Third Division. The Methodist Mission Hospital, in Kapit, also in the Third Division, recorded ninety-five cases. No significant improvement in these figures can be expected until there is a general improvement in sanitary conditions in the rural areas. This should become evident when the impact of the Rural Health Improvement Scheme, now under way, has been fully felt.

(h) Trachoma

72. The Ophthalmologist has reported only fifty-three cases of trachoma from amongst all the patients whom he has seen throughout the territory, as compared with thirty-four last year. There is therefore growing evidence that this disease does not present a public health problem which it was previously thought to do, and there is unlikely to be a need for a mass campaign to control it in Sarawak.

Further details about eye diseases are given elsewhere in this report.

(i) Quarantinable Diseases

73. As already reported, cholera has occurred in epidemic form, and sporadically, throughout the year. No other cases of quarantinable diseases occurred during the year.

IX. HOSPITALS AND DISPENSARIES

(a) General Hospitals

74. Alterations to the General Hospital in Kuching during the year, resulted in the establishment of a new ophthalmic section, consisting of male and female wards with a total of twenty beds, and a small, but adequate operating theatre. The latter is complete with all necessary equipment, including a new diathermy unit for retinal surgery. Other alterations provided extra ward accommodation including two wards containing twenty-five beds, which have been temporarily handed over to the British Security Forces. The bed strength of this hospital has therefore risen from 369 to 400. The distribution of beds in the six Government General Hospitals in the State, as at 31st December, 1963 was as follows:—

	General	*Obstetrics*	*T.B.*	*Infections*	*Mental*	*Total*
1. Kuching General Hospital	289	48	73*	10	—	420
2. Lau King Howe Hospital, Sibu	171	32	48	19	10	280
3. Simanggang General Hospital	65	4	36	—	—	105
4. Miri General Hospital	77	10	61	—	—	148
5. Limbang General Hospital	12	—	—	—	—	12
6. Sarikei General Hospital	40	—	—	—	—	40
	654	94	218	29	10	1005

*Including twenty beds in an annexe seven miles from Kuching.

75. In addition to the above, Mission hospitals provided a further 143 beds, the majority of which were for obstetrics. The Christ Hospital Kapit, in the Third Division is, however, a modern and well-equipped general hospital run by the Methodist Mission, and its bed-strength was increased from forty-six to sixty beds during the year, due to an increased demand by the local people in that area, for inpatient treatment. It is staffed by two doctors, a dentist, and a pharmacist, and provides X-ray and operating theatre facilities. The other mission hospitals run by the Roman Catholic Mission are sited as follows:—

Serian	—	First Division	—	12 beds
Sarikei	—	Third Division	—	10 beds
Mukah	—	Third Division	—	5 beds
Kanowit	—	Third Division	—	40 beds
Long San	—	Fourth Division	—	16 beds
				83

General Hospital, Kuching

76. This hospital serves the Kuching District and the whole of the First Division, and the western part of the Second Division. However, with the improvement of communications at present taking place under the Development Plan, it is likely that patients from this part of the Second Division will soon find it easier to travel to the hospital in Sarikei. The hospital provides the full facilities of a General Hospital, each unit in it being under direction of a specialist officer. It is also the main centre for nursing and midwifery training in the country.

In the grounds of the hospital, there is the Central Pathological Laboratory, a unit which serves the General Hospital, and which, through its branches in each Division serves the other hospitals in the territory. It is also the centre for the training of laboratory technicians.

77. During 1964 extensive alterations to the hospital were completed, as a result of which extra ward accommodation was provided in the space previously occupied by the nurses' training school which moved to the old Medical Stores building in 1963. Two old wards, previously used as stores were also rehabilitated and handed over temporarily to the Security Forces as a casualty admission centre. Other alterations resulted in the establishment of an ophthalmic unit with ward accommodation for twenty patients, and a small but well equipped operating theatre. Some of these alterations have already been referred to in paragraph 74 above. The hospital now contains 400 beds, plus 20 beds in the T.B. Annexe at Mile 7, Penrissen Road.

At the Nurses' Home, a new laundry and servants' quarters were completed. and plans drawn up for an extension to the kitchen and dining-room facilities.

78. The number of medical staff in the hospital was maintained at a satisfactory level during the year, as was the number of senior nursing staff, and there has also been a gradual improvement in the number of locally trained nursing staff as a result of an increased turn-out from the Nurses' Training School.

Lau King Howe Hospital, Sibu

79. There were no major alterations or improvements to this hospital during the year, but plans were finalised for the new extension to the maternity section, funds for which have been provided under the Development Plan. The first phase of this work should be completed during 1965.

80. The number of medical staff in the hospital remained at the same figure as in 1963, during the first eight months of the year, but dropped by two later in the year, due to resignations and leave. It is hoped to increase the number of doctors again, during 1965. The number of senior nursing staff available, remained satisfactory throughout the year.

Simanggang General Hospital

81. There were only minor changes and improvements to the hospital effected during the year. Unfortunately, due to a shortage of medical staff there has only been one doctor available throughout the year, to cover both the hospitial. and the rest of the Division.

82. There have been only minor changes and improvements to the other three General Hospitals. In Sarikei and Limbang, the medical staff has remained at one doctor in each, but there was a shortage of medical staff in Miri General Hospital throughout the year. From March to September there was no Surgeon available, and from March to the end of the year, only one Medical Officer. The position is expected to improve during 1965 if recruitment of new doctors comes up to expectations.

(b) Static and Travelling Dispensaries

83. The number of static dispensaries increased by two to thirty-five, during the year as a result of the department taking over two dispensaries previously run as part of Community Development Projects. The buildings taken over, at Budu in the Second Division, and Entebai in the Third Division, are however substandard, and will have to be replaced as soon as possible by the standard type of static dispensary approved by this department. Due to initial difficulties, connected with the siting of

approved by this department. Due to initial difficulties, connected with the sitting of new dispensaries being built under the 1964-1868 Development Plan, and other delays, none of the five new dispensaries scheduled for completion during 1964, was in fact ready for occupation by the end of the year but all will be brought into use during 1965. The experience gained during the first year of the new Development Plan, which coincided with the first year of the Department as a Federal Department, should help to iron out difficulties during the remaining four years of the Plan, and ensure that building targets are met in future. Attendances at dispensaries throughout the country continued to increase. The value of the special course of training for Hospital Assistants, which is held at Miri and which is aimed at equipping them particularly for service in rural dispensaries, has been proved during the year. It has been found that these men are able to tackle more efficiently and with more confidence, the problems which they meet during their somewhat isolated and lonely working existence in outstation dispensaries. Two of these special training courses were held during the year attended by a total of twenty-one Hospital Assistants.

84. The number of restbeds in static dispensaries is now 243, distributed as follows:—

First Division	*No. of Restbeds*
Bau Dispensary	4
Lundu Dispensary	4
Serian Dispensary	10
Tebakang Dispensary	4
Nonok Dispensary	3
Simunjan Dispensary	5
Muara Tuang Dispensary	5
Second Division	
Lubok Antu Dispensary	4
Engkilili Dispensary	5
Lingga Dispensary	7
Sebuyau Dispensary	7
Betong Dispensary	15
Spaoh Dispensary	8
Debak Dispensary	2
Pusa Dispensary	6
Saratok Dispensary	6
Kabong Dispensary	10
Budu Dispensary	0
Third Division	
Binatang Dispensary	12
Matu Dispensary	6
Dalat Dispensary	5
Mukah Dispensary	8
Balingian Dispensary	6
Daro Dispensary	6
Kanowit Dispensary	10
Julau Dispensary	14
Song Dispensary	8
Kapit Dispensary	7
Belaga Dispensary	8
Entebai Dispensary	0

Fourth Division	*No. of Restbeds*
Marudi Dispensary	10
Bintulu Dispensary	14
Bekenu Dispensary	10
Fifth Division	
Lawas Dispensary	10
Sundar Dispensary	4
Total	243

(c) Ulu Dressers

85. All the ulu dressers in the country were absorbed into the Government Establishment on January 1st 1963. This scheme under which selected men from ulu longhouses and kampongs were given a year's training in simple medical and surgical first aid and treatment, and paid a small salary, was originally intended as an interim measure, to provide a simple form of medical service in the remoter areas, until a more sophisticated service could be provided. Unfortunately, due to inability to provide adequate supervision of these men, and the difficulty in maintaining their supplies of medicines and dressings, the scheme did not prove entirely successful and has been allowed to run down gradually during the last two years. The number of ulu dressers has decreased during the year, due to resignations or employment of the men in other capacities in the department, and no replacements have been provided.

86. The number of ulu dressers in service at the end of the year was thirty-three, distributed as follows:—

First Division	6
Second Division	6
Third Division	5
Fourth Division	13
Fifth Division	3
	33

(d) Home Helps

87. As reported in paragraph 85 above, the ulu dresser scheme was not considered a success, for various reasons, and in its place, the "Home Help" scheme was introduced. Home helps are voluntary workers who are picked by the headmen of kampongs and longhouses and by administrative officers. They are then sent for a short course of training given by the senior hospital assistants who are supervising the treatment centres in their respective Divisions. Home Helps are supplied by the Medical Department with a very simple scale of drugs and equipment and their purpose is to give first aid and simple medical treatment to the persons living in their own or neighbouring longhouses. They are supervised by the senior hospital assistants referred to already and by Divisional Medical Officers and other members of the divisional staffs during their travelling. Their supplies are replenished from the Divisional Medical Stores whenever necessary, usually through the static and travelling dispensaries. This scheme has on the whole, proved to be a success, and there is an increasing demand for the services

of these volunteers, especially in the border areas, where "confrontation" is being faced. There was a total of 294 Home Helps at the end of 1964, distributed as follows:—

First Division	79
Second Division	42
Third Division	83
Fourth Division	74
Fifth Division	16
	294

X. SPECIAL HOSPITALS

(a) Sarawak Mental Hospital

88. This hospital has ward accommodation, of various grades, for 300 in-patients. It is the only one in the State for the admission and treatment of patients suffering from mental diseases, and also admits patients from Brunei, and occasional referred cases from Sabah. Its activities have continued to expand during the year, mainly in the direction of increased facilities for out-patient treatment, in Kuching, Sibu, Sarikei and Miri. Staff from the hospital hold regular out-patient clinics in all these centres. In Miri, a trained Hospital Assistant posted from the Sarawak Mental Hospital, is now stationed in the T.B. Hospital, where accommodation has been provided for the admission and treatment of mental cases. He also runs out-patient clinic sessions for patients in the Fourth Division. The training which has been given in the Sarawak Mental Hospital to groups of Hospital Assistants at the conclusion of their training courses in Miri, has also played a part in extending the care of the mentally sick to dispensaries in the rural areas of Sarawak. The staff of the hospital remained substantially the same during the year, and the re-engagement of one Superintendent to assist in the training programme has been of considerable help.

89. Training continues to be an important part of the work of this hospital, and fourteen student nurses were in training at the end of the year. Two Staff Hospital Assistants are at present undergoing training in mental nursing in the United Kingdom, one in his first year, and the other in his final year. The first of three batches of the three nurses has returned from an eight month training course in New Zealand where they were given practical training in all aspects of mental health work, both inside hospitals, and in out-patient clinics. The second batch of three nurses is due to proceed to New Zealand early in 1965. Two courses for Assistant Nurses were held during the year at the General Hospital, Kuching, under the Sister Tutor there, and have greatly benefited the staff concerned, numbering twenty-one in all. Training in occupational therapy, with the emphasis on local beadwork, native basketry and pottery, has been given to all female student nurses in groups of three, once each week during the year, by a member of the staff of the Batu Lintang Teachers' Training College who has specialised in this type of work. Her help is greatly appreciated. Two courses of training for Hospital Assistants who had just completed their course in Miri, were held during the year, attended by twenty-one Hospital Assistants. They were instructed in methods for the follow-up treatment of discharged patients, the management of early cases of mental disease, and the documentation of mental cases in Courts of Law.

90. New methods of treatment and new drugs have continued to be tried with interesting results. In the schizophrenias, trifluoperazine is now being used on a much wider scale than previously, and other new drugs are being tried out on an experimental basis. As a result of the greater range and effectiveness of the drugs now available, there has been a marked reduction in the use of electro-convulsive therapy in the hospital. Group therapy sessions have also been instituted during the year.

91. The hospital was visited by the Minister of Health Enche Bahaman bin Shamsuddin, the Federal Secretary, the Assistant Director of Medical Services, British Forces, Borneo, and many other Army Medical personnel, during the year. Various papers written by the Psychiatric Specialist were published in international journals on psychiatry, and an application for a research grant, submitted to the National Institute of Mental Health in America is still under consideration.

(b) Rajah Charles Brooke Memorial Hospital

92. This hospital still remains the only centre for the treatment of leprosy in Sarawak, Brunei and Sabah. It is situated at the 13th Mile Penrissen Road, near Kuching, and has accommodation for up to 400 patients, mostly living in houses built in longhouse style. There is hospital ward accommodation for approximately eighty patients, which is used for patients suffering from severe reactions or those undergoing surgical treatment, or who require treatment for some intercurrent disease. The hospital is in the day-to-day charge of a Hospital Administrator, formerly a Senior Hospital Assistant, assisted by a small staff of Hospital Assistants, Assistant Nurses, and patient-helpers. Provision has been made in the 1965 estimates for a new post of Medical Officer to take charge of all leprosy work in the territory. He would become resident Medical Officer, at the hospital. At present the medical work there is supervised by a visiting Medical Officer from Kuching, and a visiting surgeon has also been undertaking surgical rehabilitation work for the crippled and deformed. Physiotherapy work is carried out by staff specially trained in Vellore, South India, who were awarded Colombo Plan scholarships in 1963 for this purpose. There is a small workshop in which artificial limbs, special shoes, etc. are hand-made. There are many vegetable gardens, pepper-gardens, rubber plantations, fish-ponds and orchards, run and maintained by the patients of the hospital. Plans for the modernization and improvement of the hospital continued during the year. Two staff quarters started in 1963, were completed, as were the new laundry/kitchen block and the new mortuary. A building, formerly used as a detention cell for mentally ill leprosy patients, was converted into a small, compact X-ray unit, and this became operational in May. This unit saves considerable time and expense formerly spent in sending patients into Kuching for X-rays. Many patients are employed in the hospital wards, the school, the workshops, and in the maintenance and repair of the buildings, and the maintenance of the grounds, gardens and plantations. Two training courses for Hospital Assistants were held during the year, the first attended by twelve, and the second by nine Hospital Assistants, all of whom had just completed refresher courses in Miri. The purpose of these courses is to give theoretical instruction and practical training in the epidemiology, diagnosis, treatment and prevention of leprosy. Following a final examination, these men are posted to rural dispensaries, where it is hoped that they will play an important part in the campaign for the control of leprosy in Sarawak which it is hoped to organise in the near future. One member of the hospital staff was sent to Hong Kong during the year for a six weeks' course of practical instruction at the Hong Kong Leprosarium.

93. Professor Paul W. Brand of Vellore, visited the hospital in January and gave lectures to the staff and trainee Hospital Assistants, as well as performing several operations and reconstructive surgery.

Dr. J. S. Pettit of the Research Unit attached to the Sungei Buloh Leprosarium visited the hospital in October and conducted a careful survey of all the patients there. He later submitted a report containing several important recommendations concerning treatment regimes and the management of reaction cases, which have since been implemented. The Honourable Minister of Health, Enche Bahaman bin Shamsuddin accompanied by the Director of Medical Services, States of Malaya, Dato (Dr.) Din visited the hospital in August. The Kuching Branch of the Sarawak Red Cross continued to give valuable assistance, by regularly visiting the patients and distributing books and magazines and comforts for the bedridden patients. The Salvation Army Girls' Home has, as in the past, shown the greatest kindness in accepting responsibility for the care of children born in this hospital while the parents are undergoing treatment. The regular visits of priests of the Anglican Church of Borneo, and the Roman Catholic Mission have continued and have, as always, been greatly appreciated.

94. All the staff of the Medical Department, the patients past and present at the Rajah Charles Brooke Memorial Hospital, and his many other friends in Sarawak, were shocked to hear of the serious illness of Mr. Hamish MacGregor, M.B.E. who was Superintendent of the hospital for over eleven years before retiring in May, 1964. He died in United Kingdom on 10th January, 1965. He was an outstanding dedicated officer who was instrumental in changing the whole concept of leprosy and its treatment in Sarawak, and he worked untiringly to improve the lot of patients suffering from disease. He devoted most of his working life to leprosy work, and had served for seventeen years in Nigeria, with the British Empire Leprosy Relief Association before coming here. His name will long be remembered in Sarawak.

XI. SPECIALISED SERVICES

(a) Ophthalmic Services

95. The Ophthalmologist reported an increase in the volume of work during the second year of his first tour in Sarawak. The most significant event during the year was the completion in August of an ophthalmic unit at the General Hospital, Kuching, which has been referred to already in paragraph 74 of this report. During the last quarter of the year the new wards which form part of this unit, were nearly always permanently full of patients, and extra beds had often to be set up.

Total attendances at the Eye Clinic in the Kuching Health Centre, rose by just over a thousand compared with 1963. The disease pattern remains the same. 170 patients were admitted to the General Hospital, for in-patient treatment.

Sixty-six days were spent in travelling by the Ophthalmologist, and places visited included Sibu, Bintulu, Tatau, Miri, Limbang, Lawas and Sundar. During these visits 1,093 new patient were seen and treated. Sixty-five cases of incurable blindness were encountered during the year, and the causes are listed in Part II of this report. A large number of patients whose blindness was curable, mainly due to cataract, was also seen and most of them have been dealt with surgically

and had their sight restored. Over two hundred leprosy patients were examined as part of the Ophthalmologist's investigation into the ocular complications of this disease. The Ophthalmologist has remained closely associated with the work of the Sarawak Society for the Blind, and during the year, launched a "Postal Appeal" which realised the sum of over $17,000 for the Society.

(b) Dental Services

96. There was some improvement in the staffing position of the Dental Section during the year. Two new dental officers were appointed making a total of six to cover the whole territory. However, the Superintending Dental Officer visited New Zealand for a period of six weeks under Colombo Plan auspices to study the administration and running of the school dental service there, and another dental officer left in September on Government scholarship to do a year's course in public health dentistry in Canada, so the effective strength for most of the year was only five dental officers.

97. As far as the School Dental Service was concerned it was a year of consolidation, since no new dental nurses returned during the year. By the end of the year eight school dental clinics had been established, four in Kuching, three in Sibu and one in Miri. All of these now operate in the schools themselves as an integral part of the school organisation. The results achieved have been very satisfying, and there has been a great increase in the field of preventive dentistry as a result. Special emphasis has been placed on dental health education. A Dental Health Education Stall was organised and run for two weeks by the four dental nurses in Kuching, at a Trade Fair held in Kuching in August, in conjunction with the Divisional Medical Officer. It proved to be a great success and was very well attended by the public.

98. For the first time, two scholarship students were sent for dental nurse training to Singapore and two to Penang, instead of to New Zealand. In future it is likely that all dental nurse training will be carried out within Malaysia, at these two training schools.

99. Towards the end of the year, construction of two new dental clinics started at Simanggang and Limbang, as part of the new Development Plan. Both are expected to be completed and brought into use during 1965. In view of the emphasis being placed in the Development Plan on rural development, a considerable increase in visits by Dental Officers to rural areas in all Divisions was made, and it is intended to continue and extend this programme in 1965. Considerable help in this respect has been received from the Security Forces, who have co-operated by transporting staff and equipment to places hitherto inaccessible as far as dental visits were concerned. The policy of fluoridation of all new, fully-treated water supplies was continued by the Public Works Department, and progress in this field is very satisfactory.

(c) Pathological Services

100. The Central Pathological Laboratory, situated in the grounds of the General Hospital, Kuching, provides a centre for the training of Laboratory Technicians for the whole country, and is the administrative centre for the branch laboratories which have been established, in all the hospitals, general and special, in the five Divisions of the country. The technical work in all the laboratories is now standardised and a programme of refresher courses of training for the older members of the staff has been in operation. No new laboratories were established

during the year, but the work in the existing ones, has continued to expand, especially during the cholera outbreaks which occurred during the year. Two more student technicians were recruited, and at the end of the year there were eight student technicians in training in Kuching. One additional trained technician was sent to the United Kingdom under a Government scholarship to study for the A.I.M.L.T. diploma, specialising in histopathology. This brings the total of Technicians studying in the United Kingdom, to three. Another locally qualified Technician was sent to the Medical Research Institute in Kuala Lumpur to undergo a six months' course of practical training in histo-pathological techniques. Four student Laboratory Technicians passed their final qualifying examination during the year. The Pathologist in charge of the Central Laboratory resigned and left Sarawak in June to take up another post, and the administration of the Laboratory Section was taken over by the Medical Officer-in-Charge of the Kuching General Hospital. The technical side of the Laboratory was supervised by an American Peace Corps doctor who kindly volunteered to do this additional work, and rendered very valuable services to the Department in this capacity ,during the last six months of the year.

101. The demand for histopathological services has continued to increase during the year, and the reference service of the Central Laboratory has been kept busy with investigations which cannot be carried out in the Divisional Laboratories. These investigations are mainly in the serological field, but extensive use has also been made of the facilities available for the detailed study of intestinal pathogens, investigation of anaemias, and pregnancy tests. The Central Laboratory also maintains a supply of reagents, culture media and stains, ready prepared, which are supplied to the Divisional Laboratories, thereby ensuring uniformity of standards. In addition, in order to ensure a uniformly high standard of work throughout the territory, various "unknown" samples are sent each month to the Divisional Laboratories for examination and analysis, and the results obtained give a clear indication of any faults which may have developed in the apparatus or reagents, during the month. These can then be quickly rectified.

102. A second visit was paid to Sarawak during the year, by the team of research workers sent by the Medical Research Council, to study virus diseases in general, and encephalitis and leptospirosis in particular. Facilities for cultivation of leptospirae, and for the serological testing of this disease are now available in the Central Laboratory, and contact with the M.R.C. team in London continues. Paired specimens of sera for virological and leptospiral studies, are sent there regularly, for examination.

103. The Blood Transfusion Service which is run in Kuching jointly by the Kuching Division of the Sarawak Red Cross and the Central Laboratory, has continued to function smoothly, and has again benefited greatly by the generosity of the large number of Security Forces who have been brought into the country as a result of "confrontation" and the border emergency.

The Central Laboratory has also continued to run a Central Syringe Service for the General Hospital, Kuching, throughout the year.

(d) X-Ray Services

104. There were diagnostic X-ray units in each of the General Hospitals in the administrative headquarters of the five Divisions, namely Kuching, Simanggang, Sibu, Miri and Limbang, and also in the District Hospital Sarikei, in the Health Centre Kuching, and in the Rajah Charles Brooke Memorial Hospital.

Mobile units will also be installed in the new Local Hospitals, in Lundu and Marudi in 1965, when completed. The existing units provide a wide range of diagnostic facilities. In the A.T.A.S. Chest Clinic in Kuching, and in the Chest Clinics in Sibu and Miri, there are mass miniature cameras available, those in Kuching and Sibu being 75 mm. and the Miri one, 100 mm. During the year, two X-ray Technicians proceed overseas to Canada, to undergo practical courses of training in X-ray techniques lasting six to nine months.

(e) Physiotherapy Services

105. These services are at present confined to the General Hospital, Kuching where a small unit was established in 1962 by a Physiotherapist jointly sponsored and financed by the British Leprosy Relief Association and the British Red Cross Society. During 1964, this unit was handed over to a local Physiotherapist, who had just returned to Sarawak after successfully completing a scholarship course in New Zealand under Colombo Plan auspices. During the year, the work of this unit has steadily increased and has been of great value to the Department. It is hoped to start a second unit, attached to the Lau King Howe Hospital Sibu, during 1965. Plans have also been prepared for the establishment of a permanent physiotherapy section at the Rajah Charles Brooke Memorial Hospital. A small workshop was set up in the grounds of the General Hospital, Kuching for the manufacture of artificial limbs, braces, etc. for the whole territory, and generous gifts of tools were received for it, from the Kuching Rotary Club and from the Shell Company of Borneo (Ltd.). The man in charge has had one year's training in this type of work, in Japan, but it is planned to send him for a full three years' course of training in Kuala Lumpur early in 1965, in anticipation of the establishment of a properly planned and equipped workshop in the new Sarawak General Hospital.

(f) Medical Stores Section

106. This section consists of the Central Medical Store in Kuching, the Medical Stores in Sibu and Miri, and the dispensaries in each of the hospitals in the country. A new Divisional Store in Simanggang will be built in 1965 under the current Development Plan. The Central Medical Store is under the direct control of the Superintendent of Medical Stores, and he acts in a supervisory and advisory capacity in relation to the other Medical Stores and dispensaries in the territory, all of which are staffed by members of his section.

107. The Central Medical Store is responsible for the purchase, storage and distribution of all the drugs, stores and equipment used in the territory, with the exception of certain supplies which are shipped direct to Sibu, by the Crown Agents. One of the most important functions of the Central Medical Store is the local manufacture of a wide range of tablets and pharmaceutical products in the manufacturing laboratories attached to the Store. The out-put of these laboratories is constantly increasing, following the installation of additional equipment in 1963. A considerable saving in cost is effected as a result, by the bulk purchase of the raw materials used in the manufacture of these products, compared with the cost of purchase of the finished products from drug firms.

108. The training of dispensers is undertaken at the Central Medical Store and at the end of the year there were six Student Dispensers in training. One Trained Dispenser was sent to Australia to undergo a six month course of training in practical dispensing, under the Colombo Plan.

(g) Almoners' Section

109. At present, an Almoner's section has been set up only in the Kuching General Hospital where there is one trained Hospital Almoner and an assistant. This has proved to be a most valuable unit in the hospital and consequently two young women have been sent to the University of Singapore for training as Hospital Almoners. On their return it is intended to begin the expansion of this section, and the introduction of Almoners into the other hospitals. There are countless problems connected with the reduction and waiving of hospital charges in the case of poor patients, the making of travel arrangements for discharged patients including the provision of free bus, taxi or launch passages, the tracing of parents and relatives, the relief of hardship in houses from which patients have come, and similar matters, which make the services of an Almoner quite indispensable. It has been found that the Almoner can help greatly in maintaining a rapid turnover of patients because she is able to make arrangements for the return to their homes of patients fit for discharge, who, having come from the more remote rural areas, are neither able to cope with the problems of finding temporary accomodation in a large town nor of finding the means to return to their long-houses.

(h) Maternal and Child Health Services

110. There has been continued progress in the field of Maternal and Child Health. These services are the responsibility of the Local Authorities, but the Medical Department is still responsible for the training of the staff for the Local Authority clinics, and for the over-all supervision of the M.C.H. services, through the Health Sisters attached to Divisional Medical Offices. The Medical Department now has three Health Sisters for this purpose, one covering the First and Second Divisions, one in the Third Division and one covering the Fourth and Fifth Divisions. There is also one trained Health Visitor, and a second nurse is in Singapore, taking the Public Health Nursing course. In addition the Sibu Urban District Council employs a Health Sister, who is in charge of its clinic and domiciliary midwifery service, and the Kuching Municipal Council also employs a Senior Nursing Officer in the same capacity. With the handing over of all M.C.H. clinics to the Local Authorities, it is now possible for the Divisional Health Sisters to travel more extensively in the rural areas, and to exercise greater supervision over the smaller Local Authority clinics there.

111. During the year fourteen midwives sponsored by various Local Authorities, finished the course of two years' training and returned to their own areas to practise as registered midwives. At the end of the year, a new Training School for domiciliary midwives was established at Sibu, in order to increase the output of trained staff for the many new M.C.H. clinics which Local Authorities plan to set up in their areas, under the Development Plan.

XII. VOLUNTARY ORGANISATIONS

112. The Social Welfare Council has continued to act as the central welfare agency to which Government funds for welfare work are paid, for distribution to various charitable organisations in Sarawak.

113. The Sarawak Branch of the British Red Cross Society, soon to become a Branch of the Malaysian Red Cross Society, has continued its work of relief for the victims of fires and other disasters, the training of first aid workers, and the

organisation of blood transfusion services in Kuching, Sibu, Miri and Simanggang. Also the Branch runs a transit hostel in Kuching for patients and their relatives and friends, from distant places, who require some place to stay for a day or two when visiting Kuching for medical attention. The Red Cross Physiotherapist, jointly sponsored by B.L.R.A., returned to the United Kingdom after a very useful and much appreciated tour of two years in Sarawak, during which time she established a physiotherapy unit in the Kuching General Hospital. As already stated, this unit is now in charge of a local physiotherapist, trained in New Zealand under Colombo Plan auspices.

114. The Anti-Tuberculosis Society of Sarawak (A.T.A.S.) has maintained its interest in the anti-tuberculosis project in Kuching and voluntary workers have assisted in various ways such as counting and packaging P.A.S. and I.N.H. tablets. An honorary almoner has investigated all cases requiring food parcels or other assistance. The two tuberculosis longhouses at Marudi and Bintulu in the Fourth Division, maintained by the Miri branch of A.T.A.S., have continued to provide accommodation for patients on routine treatment.

115. The Rehabilitation Centre for the Blind, opened by His Excellency the Governor in August, 1963, had a successful first year's operation. As soon as funds permitted, the intake of trainees was increased to thirty-five, seven of whom were women. During the year leaving certificates were presented to eleven trainees by the Honourable the Chief Minister, at a Graduation Ceremony held in October. Work at the Centre proceeded according to plan and there are now extensive vegetable plots, a fish-pond and a hen-house, all constructed by the blind trainees. In November, the Rehabilitation Centre was honoured by a visit from Her Majesty the Raja Permaisuri Agong who showed great interest in the work of the Centre, and took tea with the trainees. The Blind Society was also instrumental in helping blind children to go to the Kapit Methodist Primary School, and this pioneer project promises to be a great success.

116. The Salvation Army has continued its invaluable work in maintaining homes for boys and girls requiring care and attention, and for the aged. Children born to parents with leprosy, in the Rajah Charles Brooke Memorial Hospital, have also been looked after in the Girls Home.

117. The Sibu Benevolent Society maintains a Nursing Home in Sibu, and an old peoples home "McCarthy Lodge" at Salim on the Rejang River. The former is for aged men and chronic cases of tuberculosis. A medical officer from the hospital in Sibu, visits it periodically. The caretaker has been trained as a "home help". The latter accommodates old people of both sexes. A sub-committee of the Benevolent Society looks after the blood donor panel, as there is no branch of the Red Cross Society in Sibu.

118. In Miri, a home for aged paupers is run by a voluntary relief committee. In Kuching, a Home for the Aged is maintained by the Sarawak Social Welfare Council. It is situated twelves miles from Kuching on the Simanggang Road, and accommodates 130 old people. There is a hospital ward for thirty patients which is run with the help of Roman Catholic nuns and is visited regularly by the Divisional Medical Officer, First Division.

PART II

Introduction

In Part II of this Report will be found certain statistics which provide an indication of the work done in this department during 1964, and which will enable comparison to be made with the work of previous years. Statistical reports for the Sarawak Malaria Eradication Project, and the Tuberculosis Control Scheme are also included.

I. GENERAL HOSPITALS

(a) In-Patient Returns

1. The following are the in-patient returns of all Government hospitals for 1964. These are compared with the previous four years:—

Hospital	*1960*	*1961*	*1962*	*1963*	*1964*
Kuching General	8,416	8,589	9,900	10,397	11,499
Lau King Howe, Sibu	6,028	7,320	7,525	8,677	10,439
Simanggang General	1,625	1,559	2,147	2,798	2,637
Miri General	2,812	3,475	3,447	3,660	3,446
Limbang General	—	—	517	579	648
Sarikei General	—	—	178	1,881	1,910
Total ...	18,881	20,943	23,714	27,992	30,579

N.B.—These figures include all normal deliveries in hospital.

2. There has therefore been an increase in the total number of in-patients treated in hospitals, of 2,587 compared with the 1963 figure. Although this increase has been spread over the whole country, it is most marked in Kuching and Sibu where the improvement in communications has made it much easier for sick persons to get to hospital.

(b) Out-Patient Returns

3. Out-patient returns for hospital out-patient departments are shown below. These are compared with the 1962 and 1963 returns:—

Hospital Out-Patient Department	*No. of New Patients Treated*			*No. of Minor Operations Performed*		
Kuching:	*1962*	*1963*	*1964*	*1962*	*1963*	*1964*
(a) Health Centre	24,835	32,618	22,241	2,430	2,274	1,894
(b) Senior Service Clinic ...	2,410	5,849	5,939	516	601	709
Sibu	40,719	44,136	58,125	1,145	2,272	2,463
Simanggang	14,968	21,263	22,672	429	449	229
Miri	15,019	13,096	19,028	—	1,856	—
Limbang	6,935	4,835	3,087	49	96	213
Sarikei	—	21,553	27,475	—	371	73
Total ...	104,886	143,350	158,567	4,569	7,919	5,581

4. There has been a noticeable increase in the amount of work done in the out-patient departments of hospitals compared with 1962, though the total number of minor operations performed has fallen.

(c) X-ray Services

5. A summary of the work done in the various X-ray departments, attached to hospitals and out-patient clinics, is given below:—

	No. of Patients X-rayed		
	1962	*1963*	*1964*
Kuching General Hospital	5,067	5,190	8,698
Chest Clinic, Kuching (Large)	3,050	2,489	43
Chest Clinic, Kuching (70 mm)	3,249	15,058	13,653
Lau King Howe Hospital, Sibu (Large) ...	17,341	9,647	10,663
Lau King Howe Hospital, Sibu (Miniature) ...	4,569	17,340	20,139
Simanggang Hospital	—	4,115	5,381
Miri General Hospital	4,752	4,984	5,575
Miri T.B. Hospital	5,490	3,709	3,926
Sarikei Hospital	—	1,284	1,955
Limbang General Hospital	461	1,230	1,972
Total ...	43,979	65,046	72,005

6. No records are available for the number of X-ray films taken in Simanggang Hospital in 1962. The X-ray unit in Sarikei Hospital was brought into use in 1963. The very large number of miniature films taken in Sibu in 1964 were taken in the course of the Tuberculosis Control Project which was operating there in 1964. The figure for Kuching includes films taken for routine medical examinations.

7. Returns from the two main general hospitals in Kuching and Sibu show the variety of work done in the X-ray departments of those hospitals:—

Nature of Film	*Number of Examinations*	
	Kuching	*Sibu*
1. Chest	4,447	5,683
2. Bone	3,925	2,803
3. Gall Bladder	59	174
4. Genito-urinary	336	367
5. Gastro-intestinal	267	395
6. Abdomen (straight)	280	283
7. Obstetrical	137	142
8. Sinuses	45	99
9. Miscellaneous	36	9
Total ...	9,532	9,955

(d) Physiotherapy Service, Kuching

8. The General Hospital, Kuching, is the only hospital in the country that has an established Physiotherapy Department. This was started three years ago by a Physiotherapist whose services have been made available to the Medical Department through the generosity of the British Red Cross Society and the British Leprosy Relief Association. It is now run by a local Physiotherapist. The Physiotherapist also holds classes for massage and exercises for hands and feet twice weekly at the Rajah Charles Brooke Memorial Hospital (for leprosy).

9. Patients treated in the Physiotherapy Department during the year 1964:—

In-Patients	
Number of treatments given	1,993
Electrical treatments	82
Out-Patients	
Number of treatments given	1,616
Electrical treatments	236
Total attendances at weekly Fracture Clinic	484

(e) Surgical Services

10. The number of operations performed on in-patients during the year in the various hospitals is shown below. These are compared with the four previous years:—

	1960	*1961*	*1962*	*1963*	*1964*
Kuching General Hospital ...	2,684	2,687	1,910	1,962	2,103
Lau King Howe Hospital, Sibu ...	3,046	3,890	3,581	3,297	3,183
Simanggang General Hospital ...	359	256	489	439	149
Miri General Hospital	2,117	2,344	3,601	726	2,894
Limbang General Hospital ...	—	—	78	55	51
Government Hospital, Sarikei ...	—	—	—	437	286
Total ...	8,206	9,177	9,659	6,916	8,666

11. A breakdown of the various categories of operation is shown below:—

	General Surgery		*Orthopaedic Surgery and Fractures*	
	Major	*Minor*	*Major*	*Minor*
Kuching General Hospital	488	1,078	69	468
Simanggang General Hospital ...	9	115	3	22
Lau King Howe Hospital, Sibu ...	560	2,289	114	220
Sarikei Hospital	15	164	5	102
Miri General Hospital	436	2,357	24	77
Limbang General Hospital	—	159	—	40
Total ...	1,508	6,162	215	929

12. There has not been any significant change in the types of surgical conditions treated in the various hospitals. Trauma accounts for the greatest number of operations in each hospital, and the second commonest cases are surgical emergencies such as acute appendicitis and perforated peptic ulcer. With the increase in the amount of traffic on the roads the number of fractures resulting from vehicle accidents is increasing steadily.

(f) Obstetrical and Gynaecological Services

13. There was a noticeable rise in the number of deliveries in hospital during the year in spite of an expanding domiciliary midwifery service. It is the practice to discourage the admission of normal multiparae for delivery.

	1961	*1962*	*1963*	*1964*
Kuching General Hospital	2,905	3,175	3,187	3,693
Lau King Howe Hospital, Sibu	987	1,029	1,419	1,383
Simanggang General Hospital	232	273	272	291
Miri General Hospital	546	564	590	651
Limbang General Hospital	—	22	38	55
Government Hospital, Sarikei	—	—	132	111
Total ...	4,670	5,063	5,638	6,184

14. The following table shows the number of maternal deaths in each hospital during the year, and a comparison is made with 1962 and 1963:—

	1962	*1963*	*1964*
Kuching	4	5	2
Sibu	6	2	4
Simanggang	2	2	4
Miri	0	0	2
Limbang	—	0	0
Sarikei	—	1	0
Total ...	12	10	12

This gives a maternal death rate of 1.94 per thousand for 1964 compared with 2.37 and 1.66 per thousand for 1962 and 1963 respectively. It should be remembered that a large proportion of the cases admitted to hospital for delivery are abnormal, and that some are women in whom labour has been prolonged due to some abnormality and who have had to make difficult and obstetrically dangerous journeys to reach hospital.

15. The extent to which the hospitals catered for the obstetric abnormality is shown in the following table:—

	Kuching	*Sibu*	*Simanggang*	*Miri*	*Sarikei*	*Total*
Caesarean Section ...	90	2	8	24	2	126
Forceps Devliery	72	4	3	14	4	97
Manual removal of placenta	86	7	4	9	7	113
Plural births	46	5	6	9	5	71
Post Partum haemorrhage ...	146	13	15	76	13	263
Toxaemias of pregnancy and the puerperium ...	126	3	53	15	3	200
Abortions	284	58	98	87	58	585
Stillbirths	67	7	7	11	7	99

16. Gynaecological surgery is a major activity in the divisional hospitals, the extent of which is indicated by the fact that in the General Hospital, Kuching, 222 major and 443 minor gynaecological operations were performed during the year.

(g) Ophthalmic Services

17. The Ophthalmologist is based on and has his Central Clinic in Kuching, although he also visits and holds clinics in the other divisions, and he has made trips up some of the rivers in order to obtain an overall picture of eye conditions in Sarawak.

Eye Clinic, Kuching

	1960	*1961*	*1962*	*1963*	*1964*
New patients treated ...	3,743	3,472	3,887	4,777	5,146

18. Analysis of conditions treated by the Ophthalmologist in various clinics during his tours in 1964:—

	Kuching	*Sibu*	*Fourth Division*	*Fifth Division*
Refractive errors and muscle imbalance	877	174	203	123
Strabismus	27	11	1	2
Conjunctivitis excluding Trachoma ...	1,491	23	54	12
Trachoma	30	6	16	1
Other inflammatory and Degenerative Conditions	1,416	52	50	23
Trauma	560	10	18	2
Cataract	159	59	46	15
Glaucoma	8	10	6	1
Uveitis	33	3	1	—
Congenital and Hereditary	16	1	6	1
Neoplasia Benign	128	19	9	11
Neoplasia Malignant	—	—	—	—
Pterygium and Pinguecula	358	34	59	20
Xerophthalmia	10	2	1	—
Optic Atrophy	5	—	1	—
Diseases of C.N.S.	7	2	1	—
Others	21	—	2	2
Total New Patients	5,146	406	474	213
Spectacles prescribed	400	80	50	50

19. The causes of blindness in patients seen in Kuching Eye Clinic and outstations were as follows:—

Cause	*Kuching*	*Sibu*	*Fourth Division*	*Fifth Division*
Phthsis Bulbi and Staphyloma	24	1	6	1
Glaucoma	3	5	3	1
Corneal Opacities	3	—	2	1
Uveitis	1	—	—	—
Cerebral Tumour	1	—	—	—
Optic Atrophy of unknown aetiology ...	4	—	1	—
Heredomacular Degeneration	—	1	—	—
Diabetic Retinopathy	1	—	—	—
Trachoma	1	1	1	—
Syphilitic Optic Atrophy	1	—	—	—
Sympathetic Ophthalmia	1	1	—	—
Total ...	40	9	13	3

20. The age group of the sixty-five persons incurably blind seen in Kuching were:—

0 — 20 years	15
21 — 50 years	33
51 — over years	17

21. The number of eye operations performed during the year was as follows:—

Operation	*Kuching*	*Outstations*
Cataract Extraction	85	20
Glaucoma	1	1
Strabismus	6	3
Excision of lacrimal sac	1	—
Needling	9	—
Major Trauma	10	2
Other intraocular	20	—
Dacryocystorhinostomy	2	—
Various minor	43	30
Enucleations	7	1
Total ...	184	57

Major operations performed in Hospital	158
Minor operations performed in Hospital	83
Minor operations performed in Kuching Eye Clinic ...	727

II. SPECIAL HOSPITALS

(a) Sarawak Mental Hospital

	1963	*1964*
22. Total Admissions	577	630
New Admissions	280	327
Re-admissions	297	303
New admissions suffering from Schizophrenia	129	141
Number of Discharges	581	586
Number of deaths in hospital	11	17

23. The diagnostic classification of new admissions in 1964 was as follows:—

Community	*Chinese*	*Malay*	*Sea Dayak*	*Land Dayak*	*Others*	*Total*	*Percentage*
Schizophrenias	81	14	25	7	14	141	43
Affective Disorders	28	10	6	6	9	59	18
Organic Psychoses	18	16	8	9	2	46	14
Epilepsies	4	2	1	1	1	9	3
Neurological Disorders ...	2	—	—	1	—	3	1
Neuroses	17	2	11	6	10	46	14
Amentias	4	1	2	2	—	9	3
N.A.D.	7	1	3	2	1	14	4
Total	161	46	56	27	37	327	100
1st Admission % by race ...	49	14	17	8	12	100	
Racial % by population ...	31	16	32	10	7	100	

24. The percentage of voluntary and temporary admissions was slightly more than that for 1963.

Percentage of Voluntary Patients

1960	46
1961	63
1962	83
1963	84
1964	90

25. New Out-patients Registered:—

	Kuching	*Sibu*	*Total*
1960	290	—	290
1961	310	290	600
1962	264	160	424
1963	236	219	455
1964	155	107	262

26. Out-patient Attendances at all Out-patient Clinics:—

Year	*1960*	*1961*	*1962*	*1963*	*1964*
No.	1,743	3,227	3,871	4,315	4,869

Further details of these attendances are as follows:—

Clinic	*Sekama Road Clinic, Kuching*	*Sarawak Mental Hospital*	*Lau King Howe Hospital*	*Sarikei Hospital*	*Total*
No. of attending patients	2,788	383	1,381	317	4,869

27. Racial and Diagnostic Distribution of New Out-patients registered in 1964:—

Community	*Chinese*	*Malay*	*Sea Dayak*	*Land Dayak*	*Others*	*Total*	*Percentage*
Schizophrenias	51	6	12	3	5	77	30
Affective Disorders	32	6	5	1	3	47	18
Organic Psychoses	20	4	5	—	2	31	12
Epilepsies	13	2	4	—	—	19	7
Neurological Disorders ...	6	—	—	—	2	8	3
Neuroses	34	3	3	1	12	53	20
Amentias	3	1	1	—	11	16	6
N.A.D.	9	1	1	—	—	11	4
Total ...	168	23	31	5	35	262	100
1st Admission % by race ...	64	9	12	2	13	100	
Racial % by population ...	31	16	32	8	13	100	

28. The following table summarises the work of this section since 1955:—

Year	*Admissions to S.M.H.*	*Discharges from S.M.H.*	*Deaths in S.M.H.*	*New Out-patients in Kuching and Sibu*	*Total Out-patient attendances at Clinics*
1955 ...	132	75	29	2	12
1956 ...	154	110	24	13	40
1957 ...	174	110	27	8	48
1958 ...	195	120	34	19	88
1959 ...	338	342	15	207	367
1960 ...	429	405	24	209	1,743
1961 ...	581	567	21	600	3,227
1962 ...	544	542	16	424	3,871
1963 ...	577	581	11	455	4,316
1964 ...	630	586	17	262	4,869

(b) Rajah Charles Brooke Memorial Hospital (for Leprosy)

	1962	*1963*	*1964*
29. Number of Patients admitted	87	57	63
Number of Paitents discharged	82	65	75
Number of deaths	12	6	10
Number of Patients in hospital on the last day of the year	368	354	332

Twelve of the admissions came from Sabah.

30. It has been the aim to maintain as high a discharge rate as possible. This is in keeping with the policy of the department which is to establish the domiciliary treatment of leprosy, using the hospital only for cases which react, or require surgical reconstruction and rehabilitation, and for the diminishing number of grossly deformed chronic cases who are unable to fend for themselves.

31. The following table shows the racial classification of patients in hospital at the end of 1964, new admissions during 1964, and discharges during the year:—

Race	*Patients in hospitals on 31.12.64*	*Admissions in 1964*	*Discharges in 1964*
Sea Dayak (Iban)	66	9	21
Land Dayak (Bidayuh)	13	4	4
Kayan Group (Kayan-Kenyah)	15	2	3
Other Sarawak Natives	1	—	—
Chinese	145	22	25
Malay—including Muslim Melanaus ...	50	14	7
Melanaus	6	2	—
Kadazan	19	2	3
Indonesian	17	8	12
Other	—	—	—
Total ...	332	63	75

32. The age-group of patients admitted and discharged are shown in the following table:—

Age Group	Admissions		Discharges	
	1963	*1964*	*1963*	*1964*
5 — 9 years	2	1	0	2
10 — 19 years	7	8	2	9
20 — 29 years	14	17	17	23
30 — 39 years	11	14	11	15
40 — 49 years	9	11	10	13
50 — 59 years	7	7	12	9
60 — 69 years	7	3	12	4
Over 70 years	0	2	0	0
Total ...	57	63	64	75

33. With the services of a Physiotherapist available it was possible during 1964 to continue some reconstructive surgery, in addition to the usual amputations and bone excisions that an institution such as this requires. A total of eighteen major and twenty-one minor operations were done in the hospital during the year.

III. STATIC AND TRAVELLING DISPENSARIES

34. Returns of new patients attending static and travelling dispensaries during the year, and admissions to rest-beds in the static dispensaries are shown below. There was a marked increase in the attendance at the dispensaries during the year.

(a) Static Dispensaries

35.

	No. of Restbeds	New Patients		Admissions	
		1963	*1964*	*1963*	*1964*
First Division					
1. Bau Dispensary	4	22,171	26,665	64	61
2. Lundu Dispensary	4	16,709	9,323	98	47
3. Serian Dispensary	10	21,585	23,300	48	66
4. Tebakang Dispensary ...	4	9,420	14,440	53	58
5. Nonok Dispensary	3	6,296	6,183	17	25
6. Simunjan Dispensary ...	5	12,399	16,060	104	81
7. *Muara Tuang Dispensary ...	5	—	3,660	—	34
Second Division					
8. Lubok Antu Dispensary ...	4	5,877	7,693	64	103
9. Engkilili Dispensary ...	5	13,953	15,374	84	142
10. Lingga Dispensary	7	9,467	11,290	49	92
11. Sebuyau Dispensary ...	7	7,575	8,957	190	190
12. Betong Dispensary	15	11,219	12,961	356	286
13. Spaoh Dispensary	8	7,208	11,261	192	107
14. Debak Dispensary	2	6,462	6,498	142	96
15. Saratok Dispensary	1	16,266	16,629	375	343

	No. of Restbeds	New Patients		Admissions	
		1963	1964	1963	1964
16. Kabong Dispensary	10	2,885	5,174	26	17
17. Pusa Dispensary	6	2,045	6,226	10	53
Third Division					
18. Binatang Dispensary ...	12	13,866	16,836	60	62
19. Matu Dispensary	6	6,661	12,817	11	11
20. Dalat Dispensary	5	10,092	11,037	94	105
21. Mukah Dispensary	8	7,904	7,620	127	177
22. Balingian Dispensary ...	6	4,327	5,633	92	372
23. Kanowit Dispensary ...	10	12,203	17,965	276	297
24. Julau Dispensary	14	11,173	12,741	241	329
25. Song Dispensary	8	13,865	13,971	250	174
26. Kapit Dispensary	7	20,206	23,935	45	25
27. Belaga Dispensary	8	10,813	12,005	135	261
28. Daro Dispensary	6	3,809	10,603	45	195
Fourth Division					
29. Marudi Dispensary	10	15,626	18,392	459	445
30. Bintulu Dispensary	14	16,259	15,774	375	399
31. Bekenu Dispensary	10	5,792	5,196	101	145
Fifth Division					
32. Lawas Dispensary	10	10,621	11,296	91	64
33. Sundar Dispensary	4	3,817	9,438	87	88
Totals ...		338,571	420,599	4,361	4,950

* This dispensary was opened during this year.

(b) Travelling Dispensaries

36.

	Base	No. of Patients Treated	
		1963	1964
First Division			
Travelling Dispensary No. 2	Kuching	9,382	9,559
Road Dispensary	Kuching	21.505	30,185
Tebedu Dispensary	Kuching	—	299
Second Division			
Nil			
Third Division			
Travelling Dispensary No. 7	Sarikei	11,520	13,701
Travelling Dispensary No. 8	Kanowit	8,924	11,336
Travelling Dispensary No. 9	Kapit	8,417	11,065
Travelling Dispensary No. 17	Belaga	2,920	5,260
Fourth Division			
Travelling Dispensary No. 11	Tatau	5,693	9,854

Travelling Dispensary No. 12	Bintulu	6,477	7,471
*Travelling Dispensary No. 13	Niah	5,792	6,765
Travelling Dispensary No. 14	Marudi	4,942	6,661
Fifth Division			
Travelling Dispensary No. 16	Limbang	4,265	11,916
	Total	89,837	123,773

* This travelling dispensary was formerly at Bekenu and was moved to Niah after the Bekenu static dispensary was opened in 1963.

IV. DENTAL SECTION STATISTICS

37. The total attendances at all the dental clinics were as follows:—

	1962	*1963*	*1964*
Kuching	34,347	36,239	43,000
Sibu	12,945	13,433	17,871
Miri	2,663	11,333	12,033

38. An analysis of the service provided is shown below:—

	Kuching	*Sibu*	*Miri*	*Total*
Dental Extractions	35,578	15,291	13,455	64,324
Fillings	19,435	10,150	4,002	33,587
Dentures	703	33	119	1,137
Repair of Dentures	183	97	2	
Periodontal Treatment	1,374	670	534	2,578
X-rays	379	82	523	984
Orthodontic Appliances	8	4	—	12
Gold Inlays and Crown Bridges ...	13	1	—	14
Metal and Acrylic Splints	7	—	3	10
Post Crowns	2	—	—	2
Other Treatments	2,610	1,703	935	5,248

V. PATHOLOGICAL LABORATORY SERVICES

39. The following table gives a summary of the examinations carried out at each individual laboratory during 1964:—

Return of Routine Laboratory Investigations, 1964 (In-patient)

INVESTIGATIONS	*CL*	*SM*	*RCBM*	*SG*	*SIBU*	*SKEI*	*MIRI*	*TOTAL*
Haematology:								
Haemoglobin	12,032	646	638	1,933	9,996	929	4,946	31,120
Cell count	10,941	117	1,029	2,342	9,201	2,373	3,649	29,652
Other tests	3,997	—	3	410	1,163	99	574	6,246
Blood Transfusion:								
Blood Grouping ...	4,434	—	—	960	5,221	974	1,406	12,995
Compatibility tests ...	2,948	—	—	152	1,533	121	799	5,553
Serology:								
Price precipitation reaction	9,812	—	—	637	4,085	762	1,937	17,233
Widal tests	504	—	—	110	741	119	443	1,917
Other tests	502	—	—	81	211	108	19	921
Chemical Pathology:								
Urine tests	5,119	565	312	758	4,669	859	3,688	15,970
Blood tests	7,911	—	—	738	2,274	181	1,264	12,368
Other tests	1,173	22	2	165	1,469	32	435	3,298
Parasitology:								
Blood smears	2,148	574	12	645	896	505	710	5,490
Faeces	5,116	532	133	1,803	3,928	448	2,767	14,727
Bacteriology:								
Tuberculosis sputa ...	2,881	220	85	1,069	2,887	534	1,473	9,149
Swabs	3,024	2	—	590	950	120	1,060	5,746
Faeces	2,104	—	—	383	1,608	330	769	5,194
Urine	1,530	—	—	223	459	—	460	2,672
Blood culture	304	—	—	103	470	10	87	974
Scraping for leprae ...	20	—	20,159	2	12	—	62	20,255
Other tests	4,382	—	—	—	1,181	69	1,035	6,667
Total ...	80,882	2,678	22,373	13,104	52,954	8,573	27,583	208,147

Legend: *CL*=Central Laboratory *SM*=Sarawak Mental Hospital
RCBM=Rajah Charles Brooke Memorial Hospital
SKEI=Sarikei Hospital *SG*=Simanggang Hospital

Return of Routine Laboratory Investigations, 1964 (Out-patient)

INVESTIGATION	*Health Centre*	*Simanggang*	*Sibu*	*Sarikei*	*Miri*	*Total*
Haematology:						
Haemoglobin	5,950	3,857	4,699	508	2,762	17,776
Cell counts	4,121	2,269	1,340	1,045	1,284	10,059
Other tests	250	284	530	3	167	1,234
Chemical Pathology:						
Urine tests	17,715	1,912	5,904	2,012	3,507	31,050
Other tests	183	4	119	9	51	366
Parasitology:						
Blood smears	4,628	7,320	405	168	498	13,019
Faeces	13,005	924	6,864	1,397	1,959	24,149
Bacteriology:						
Tuberculosis sputa	6,410	879	7,088	536	2,614	17,527
Swabs	655	63	561	149	88	1,516
Scrapings for leprosy	155	32	63	22	38	310
Total ...	53,072	17,544	27,573	5,849	12,968	117,006

40. The Central Laboratory continued to be responsible for nearly all the preparation of culture media, reagents, stains and acid citrate dextrose solution for blood collection which are used in various laboratories and hospitals in the country. Crystalloid solutions and water for injection are also prepared in the Central Laboratory, partly assisted by the staff of the Central Medical Store. The Central Laboratory Syringe Service continued supplying sterile syringes to all the wards of the General Hospital. The work of the preparation room is summarised as follows:—

Acid-citrate Dextrose for blood collection (120 ml./ 500 ml. bottle)	4,348 bottles
Water for injection 25 ml.	36,686 vials
Crystalloid Solution 500 ml.	16,554 bottles
200 ml.	498 bottles
Blood Collecting Sets for serology tests	4,454 sets
Culture media	908 litres
Syringes cleaned, assembled and sterilized	107,848
Chemical Reagents prepared	570 litres
Stains and reagents prepared ready for use:—	
Haematology	28 litres
Bacteriology	337 litres
Histo-pathology	270 litres

41. The Central Laboratory is a reference laboratory for problems arising in peripheral laboratories, checks and identifies in detail all intestinal pathogens and performs many tests which it is not possible or feasible to set up in the other laboratories. Increasing use is being made of these facilities offered in the Central Laboratory and this work, not recorded in the principal table above, is summarised here:—

	Kuching	*Simanggang*	*Sibu*	*Sarikei*	*Miri*	*Total*
Haematology:						
Bone Marrow	43	2	9	1	1	56
Abnormal haemoglobins ...	27	—	—	—	9	36
Serology:						
Wassermann and other tests ...	251	4	173	1	3	432
Paul-Bunnell	23	6	14	1	4	48
Rose-Waaler	22	6	14	—	9	51
S.E.L. for leptospirosis ...	66	33	3	—	2	104
Anti-streptolysin Titre ...	98	5	7	—	2	112
Pregnancy Tests	46	—	7	—	15	68
Brucella Agglutination ...	2	—	7	—	7	16
Bacteriology:						
Salmonellae (food poisoning) ...	22	2	3	—	3	30
Shigellae	115	26	26	30	48	245
Entpath. E. Coli	21	3	11	—	7	42
V. Cholerae El Tor	1	—	177	15	32	225

42. The Blood Transfusion Service has continued to improve throughout the country. The record of transfusions is as follows (figures in parenthesis are for 1963 given for comparison):—

	Recipients		*Donors*	
Kuching	1,493	(875)	1,563	(949)
Simanggang	136	(126)	141	(127)
Sibu	772	(832)	875	(869)
Sarikei	77	(38)	77	(38)
Miri	414	(230)	472	(250)
Total ...	2,892	(2,101)	3,128	(2,233)

43. The number of specimens submitted during the year was 1,023 compared to 902 in 1963. Of the 1,023 specimens, 163 were referred to the Consultant Pathologist at the Institute for Medical Research in Kuala Lumpur for a second opinion. Details of the work of the histo-pathological section follows:— (figures for 1963 are included in parenthesis for comparison)

(a) *Surgical Pathology:*

Hospital	*No. of Specimens*
Kuching	346 (328)
Health Centre, Kuching	15 (19)
Simanggang	31 (45)
Lau King Howe, Sibu	371 (338)
Sarikei	3 (7)
Miri	138 (94)
Limbang	4 (2)
R.C.M.B.	— (2)
Christ Hospital, Kapit	110 (61)
Private practitioners	5 (4)
	1,023 (900)

(b) *Morbid Anatomy:*

	No. of Specimens
Post-mortem dissections (Kuching only) (Hospital 11 (33), Medico-legal 20 (16)	31 (49)
Kuching	45 (214)
Simanggang	— (1)
Sibu	3 (13)
Miri	1 (4)
Christ Hospital, Kapit	3 (8)
	83 (289)

(c) *Exfoliative Cytology:*

Kuching	58	(39)
Health Centre, Kuching	13	(2)
Lau King Howe, Sibu	5	(30)
Christ Hospital, Kapit	—	(1)
Simanggang	4	(—)
Sarawak Mental Hospital	2	(—)
Private practitioners	2	(—)
	84	(72)

VI. MATERNAL AND CHILD HEALTH SERVICES

44. The following figures give some indication of the work done at three of the main Maternal and Child Health Services:—

			Child Health Attendances	*Ante-natal Attendances*	*Post-natal Attendances*	*Total Attendances*
Kuching	1960	...	65,735	33,818	5,127	104,180
	1961	...	71,604	37,699	6,019	115,322
	1962	...	83,042	50,877	7,920	141,849
	1963	...	72,639	44,361	7,618	124,618
	1964	...	74,951	50,241	8,651	133,843
Sibu	1960	...	40,001	16,072	3,660	56,073
	1961	...	50,787	15,516	5,648	71,951
	1962	...	40,298	17,802	5,653	63,753
	1963	...	54,517	22,311	7,011	83,839
	1964	...	44,936	22,080	6,477	73,493
Sarikei	1960	...	3,586	4,409	510	8,505
	1961	...	8,025	4,565	578	13,168
	1962	...	7,541	6,530	688	14,759
	1963	...	5,084	6,260	519	11,863
	1964	...	4,839	6,933	521	12,293

MALARIA ERADICATION PROJECT

Introduction

45. The climatic conditions contributing to the presence of malaria in Sarawak are to be found in the opening chapter Part I of this Report, under the heading background information.

46. There is no obvious seasonal incidence of malaria and transmission can occur throughout the year. Prior to the commencement of the project it was known that the hilly areas were hyperendemic, while the low-lying plains and coastal areas, in the absence of nearby hills, were hypoendemic. This difference has been associated with the distribution of the main vector *A. leucosphyrus.*

47. Due to terrorist activities, mainly in the border areas of the State spraying operations have fallen behind schedule in some areas while surveillance measures have had to be curtailed. Naturally, this had had an adverse effect on the progress of the project in the areas so affected.

48. The Malaria Eradication Project is administered from Medical Headquarters, with technical assistance provided by a team of three advisers from the World Health Organisation. Execution of the programme in the Divisions is the responsibility of each Divisional Medical Officer.

49. Due to further progress of the project, it was possible to reduce the staff engaged in it from 265 in 1963 to 216 in 1964. Most were absorbed into other new health projects run by the Department.

50. A training course for 12 investigators was held in Kuching, lasting eight weeks, and a refresher course for 13 squad leaders was also held in Miri during the year. One Medical Officer and two senior microscopists attended courses sponsored by W.H.O. in Manila, in Epidemiology and Malaria Parasitology respectively.

Operational Areas

51. As a result of the epidemiological picture, and the security conditions prevailing, the State is divided into seven operational areas as shown below:—

	Population	*Area in sq. km.*
a1 Attack phase—border	97,935	49,012
a2 Attack phase—late stage	77,859	15,020
b1 Consolidation phase—former hyperendemic	273,873	36,933
b2 Consolidation phase—former hypoendemic	45,977	11,370
c1 Maintenance phase — former hyperendemic	10,709	701
c2 Maintenance phase — former hypoendemic	187,643	12,085
d Non-malarious urban	127,826	82
Total ...	821,822	125,203

52. For the first time, about a quarter of the population of Sarawak is now classified as living in maintenance phase areas. In these areas no "indigenous" cases of malaria have occurred for three years in spite of intensive surveillance operations. Routine eradication measures have therefore ceased and vigilance against the re-introduction of malaria has been intensified.

53. As a result of the situation along the border area with Indonesian Kalimantan, it was necessary to extend *a1* areas (i.e. attack phase areas) to the Third, Fourth and Fifth Divisions and to give minimal protection along the whole border by spraying once yearly.

54. The malaria eradication measures in operation in the various operational areas are shown in Table 1. In brief they consist of the following measures:—

(a) Passive case detection throughout the State.

(b) Active case detection, monthly in *a2* and *b1* areas, two-monthly in *b2* areas, and six-monthly in *c1* areas.

(c) D.D.T. house spraying once yearly in *a1* areas and twice yearly in *a2* areas.

(d) Remedial measures such as focal spraying, mass blood surveys, drug treatment and entomological and epidemiological investigations, wherever a malaria case or focus is detected.

Residual Spraying

55. A summary of spraying operations, by Division, is shown in Table 2 A total population of 167,579 was directly protected by regular residual spraying during the year. A total of 40,457 houses and 11,028 huts was sprayed at an average cost of $3.26 per house or 57 cents per capital. Only 1,814 houses and 567 huts remained unsprayed due to *pantangs* or refusal or absence of the owners.

Entomology

56. Entomological activities included investigations carried out in connection with malaria cases or foci detected, and also monthly observations in five localities in the attack phase, to assess the efficacy of the D.D.T. spraying. Four additional localities were visited monthly for the study of vector biology. Fifteen localities in the consolidation and maintenance phases were also visited monthly to check the anopheline population after withdrawal of spraying.

57. No signs of insecticidal resistance have been observed. Results of the susceptibility tests carried out during the year are shown in Table 3.

Surveillance Results

58. Malaria case detection work is carried out in two ways; passive case detection by various government treatment centres such as hospitals, dispensaries, *ulu* dressers and "home helps" and certain voluntary agencies, and active case detection carried out by canvassers employed by the S.M.E.P. who are given an itinerary covering all the dwellings and houses in an area, and in addition, by special surveys and investigations. More than half of the cases of malaria detected in Sarawak in 1964 were picked up by Government passive case detection units. The contribution of the voluntary P.C.D. units, and of the active case detection units, was more limited.

59. Cases of malaria detected by the above case detection system are investigated by teams of malaria investigators who carry out epidemiological studies and also administer remedial drugs to all persons with positive blood slides.

60. A summary of surveillance operations and results during 1964, by phase and Divisions, is shown in Table 4. The Annual Parasite Incidence (A.P.I.) is also shown by area, in the chart attached.

61. The majority of cases of malaria originated in attack phase areas, and almost half of the total number (404 out of 863) in the State during the year, came from the First Division. The commonest type of parasite found was *P.vivax* which occurred throughout the State. *P.malariae* was also found in all Divisions, often in connection with residual foci, but much less frequently than *P.vivax*. *P.falciparum* was confined almost entirely to the First and Second Divisions, and was connected with the importation of the parasite from Kalimantan, and elsewhere outside Sarawak. Few cases of malaria occurred in infants probably due to the reduced chance of exposure to infection in longhouses.

62. During the year, malaria foci occurred in the following places:—

(a) Serian — (Indonesian refugees).

(b) Sg. Engkari — (Logging camp workers from Sabah).

(c) Ulu Skrang — (Connected with the passage of Indonesian terrorists and the Skrang resettlement scheme).

(d) Sg. Entulang/Klauh area — (Connected with logging camps and fishing).

(e) Ulu Oya Scheme — (Connected with new Development Scheme).

(f) Sg. Apo — (Connected with semi-nomadic Punans).

(g) Niah area — (Connected with logging camps).

(h) Mid-Limbang — (Connected with residual focus in Limau Manis, Brunei).

(i) Sg. Tengoa — (possibly connected with security).

(j) Ulu Merapok — (possibly connected with security).

63. From the above it will be seen that the problems facing the S.M.E.P. mainly originate in:—

(i) the importation of malaria parasites from outside Sarawak, mainly from Kalimantan, Sabah and Brunei;

(ii) problems connected with Indonesian "confrontation";

(iii) development programmes, resettlement projects, logging camps, etc.; and

(iv) semi-nomadic Punans.

However, despite these difficulties, the malaria situation has been kept well under control, and the incidence of frank cases of the disease has been reduced from the pre-operational level of around 40,000 cases per year to under 1,000 per year during 1964.

TABLE 1

Malaria Eradication Measures, Sarawak, 1964

Measures	Operational Area						
	a1	*a2*	*b1*	*b2*	*c1*	*c2*	*d*
1. *Regular Measures*							
1.1 Passive case detection	+	+	+	+	+	+	+
1.2 Active case detection	—	monthly	monthly	two-monthly	six-monthly	—	—
1.3 Regular spray	annually	six-monthly	—	—	—	—	—
2. *Remedial Measures*							
2.1 On detection of malaria case							
2.1.1 BF, C.5 & Rad. Tr. to the case	±	+	+	+	+	+	+
2.1.2 BF & Sup.Tr. for pos. family	±	+	+	+	+	+	+
2.1.3 Case follow-up	—	monthly	monthly	two-monthly	monthly	two-monthly	two-monthly
2.1.4 Epid. Blood Survey within 2-mile radius	—	±	+	±	+	±	±
2.1.5 Ent.Inv.	—	±	+	+	+	+	—
2.1.6 Focal spray	—	±	+	+	+	+	—
2.2 Additional action to a malaria focus							
2.2.1 Active case detection (monthly)	±	+	+	+	+	+	—
2.2.2 Immediate and quarterly intensive blood survey	±	±	+	+	+	+	—
2.2.3 Prophylactic mass drug amd. to a serious focus	±	±	+	±	+	±	—
2.2.4 Follow-up ent. invest.	±	±	±	±	±	±	—
2.2.5 Focal spray every 3-6 months	±	+	+	+	+	+	—

+ = Obligatory; ± = Optional; — = No action;

BF = Blood film; C.5 = Case investigation (forms)

TABLE 2

Summary of Spraying Operations in the Attack Phase Areas, Sarawak, 1964

Division	*Area*	*Cycle*	*Date of Spraying*	*No. of villages*	*Population protected*	*Houses*		*Huts*		*No. of Workers*	*Man-hours*		*DDT in Kg. 75% wdp*	*Cost in M$*
						Sprayed	*Unsprayed*	*Sprayed*	*Unsprayed*		*Worked*	*Travel*		
I	a1	—	1/7–18/12	179	33,350	5,473	194	1,335	8	14	4,243	2,144	2,336	16,805
	a2	I	1/4–14/6	104	27,721	4,325	193	843	41	14	3,494	1,034	1,939	14,509
	,,	II	29/9–8/1(65)	114	27,567	4,505	278	1,641	6	12	3,642	890	2,082	12,487
	Subtotal		—	293	61,071	14,303	665	3,819	55	14	11,379	4,068	6,357	43,801
II	a1	—	8/7–16/9	158	17,865	3,286	303	93	3	6	962	543	693	4,343
	a2	I	8/4–16/6	157	15,896	2,881	190	819	124	7	931	496	844	5,547
	,,	II	7/10–19/12	159	15,676	2,847	256	680	60	6	820	475	860	5,121
	Subtotal		—	317	33,761	9,014	749	1,592	187	7	2,713	1,514	2,397	15,011
III	a1	—	6/2–23/10	330	34,314	5,593	37	2,187	64	17	3,408	4,562	2,402	25,093
	a2	I	5/1–22/7	191	17,005	2,939	39	877	29	10	1,891	2,007	1,157	11,835
	,,	II	4/7–20/12	195	17,717	3,118	31	720	115	13	1,620	2,211	1,113	12,742
	Subtotal		—	525	52,031	11'650	107	3,784	208	17	6,919	8,780	4,672	49,670
IV	a1	—	1/12–23/1(65)	38	6,100	721	127	523	109	6	647	481	410	4,686
	a2	I	11/3–17/4	53	8,169	1,419	64	209	1	8	1,155	627	554	5,334
	,,	II	1–30/10	58	8,020	1,369	85	316	7	8	1,223	506	582	5,096
	Subtotal		—	96	14,269	3,509	276	1,048	117	8	3,025	1,614	1,546	15,116
V	a1	—	8–21/11	16	1,417	241	0	45	0	(5)	134	200	99	1,601
	a2	I	29/4–29/5	54	4,939	847	14	230	0	(6)	555	446	353	3,275
	,,	II	1/11–12/12	54	5,030	893	3	510	0	(6)	732	249	395	3,978
	Subtotal		—	70	6,447	1,981	17	785	0	(6)	1,421	895	847	8,854
Total	a1	—	6/2–23/1(65)	721	93,046	15,314	661	4,183	184	43	9,394	7,930	5,940	52,528
	a2	I	5/1–22/7	559	73,730	12,411	500	2,978	195	39	8,026	4,610	4,847	40,500
	,,	II	4/7–8/1(65)	580	74,000	12,732	653	3,867	188	39	8,037	4,331	5,032	39,424
	Grand Total		—	1,301	167,579	40,457	1,814	11,028	567	43	25,457	16,871	15,819	132,452

TABLE 3

Results of Susceptibility Tests on Malaria Vectors carried out in 1964, Sarawak

Species	*Locality (Sector/Kampong No. and Name)*	*DDT spray history*	*Date of*	*DDT*		*DIELDRIN*		*PRE-SPRAY DATA*			
				L.C. 50 %	*L.C. 100 %*	*L.C. 50 %*	*L.C. 100 %*	*L.C. 50 % DDT*	*L.C. 100 % DDT*	*L.C. 50 % Dieldrin*	*L.C. 100 % Dieldrin*
A.leucosphyrus ...	123/8 Merimbeh	1956–60 & 63	17.1.64	0.5 (23)	2.0	—	—	0.4	—	0.01	—
A.balabacensis ...	512/49 Kampong Maritan	1957–60	26.3.64	0.55 (132)	4.0	—	—	0.35	4.0	—	0.2
*A.sundaicus** ...	363/129 & 130 R. Sidom and Kg. Bedengan	1958–60	17.8.64	0.4 (247)	2.0	under 0.05 (130)	under 0.1	0.5	2.0	0.05	0.4
*A.letifer**	225/131 Sungei Klauh area	1958 to date	27.11.63	0.5 (807)	4.0	—	—	1.2	4.0	0.17	0.8
	144/97 Tapong Lebat	1958 to date	3.5.64	1.0 (157)	4.0	—	—				
	151/? Pangkalan Perupok	1958 to date	5.64	0.5 (272)	4.0	—	—				
	142/38 Koran Tembawang	1955 to date	21.1.64	1.4 (166)	4.0	—	—				
A.donaldi	132/15 Kampong Staang	1957–61	26.9.64	0.5 (210)	2.0			0.45	4.0	—	—

NOTE: Figures in brackets represent the actual number of mosquitoes tested.
*Pre-spray figures for these species are not available from Sarawak.

	Total Sarawak	By Phase				By Division				
		Attack	Consolidation	Maintenance	Urban	I	II	III	IV	V
Summary										
Population	821·822	175,794	319,850	198,352	127,826	273,696	120,781	288,633	106,701	32,011
Slides examined	289,505	79,793	178,343	22,189	9,180	85,310	71,820	62,549	50,155	19,671
Slides positive	863	562	240	28	33	404	166	126	99	68
Slide Positivity Rate (%)	0.30	0.704	0.134	0.126	0.35	0.47	0.23	0.20	0.20	0.35
Annual Bl. Exam. Rate (%)	35.2	45.4	55.8	11.2	7.2	31.2	59.5	21.7	47.0	61.5
Annual Par. Incidence (°/oo)	1.05	3.20	0.75	0.14	0.26	1.48	1.37	0.44	0.93	2.12
Case Detection										
Passive C.D. — sl. ex.	84,758	18,213	40,938	17,372	8,235	31,550	33,687	10,525	7,787	1,209
sl. pos.	495	366	73	26	30	271	123	67	32	2
Active C.D. — sl. ex.	49,677	9,485	39,883	309	—	5,963	4,328	14,895	17,771	6,720
— sl. pos.	56	27	29	—	—	7	9	11	15	14
Mass Bl.S. — sl. ex.	29,767	13,723	14,373	1,100	571	11,129	3,371	10,505	3,230	1,532
— sl. pos.	137	77	57	—	3	60	8	31	18	20
Epid. S. — sl. ex.	18,085	4,876	11,382	1,531	296	6,909	1,624	3,273	3,802	2,477
— sl. pos.	55	22	32	1	—	29	2	4	4	16
Follow-up — sl. ex.	7,448	3,540	3,863	44	1	1,638	723	3,549	882	656
— sl. pos	78	46	31	1	—	18	9	12	24	15
Special S. — sl. ex.	99,770	29,956	67,904	1,833	77	28,121	28,087	19,802	16,683	7,077
— sl. pos	42	24	18	—	—	19	15	1	6	1
Cases by Parasite Species										
P. vivax	573	367	153	26	27	269	123	101	41	39
P. falciparum	141	105	33	1	2	97	32	—	2	10
P. malariae	129	76	48	1	4	25	9	25	54	16
Mixed infection	15VF, 1FM, 2VM,2VFM	9VF, 1FM 2VM,2VFM	6VF	—	—	10VF, 1FM 2VFM	2VF	—	2VM	3VF
Cases by Age										
Below 1 year	3	2	1	—	—	1	1	1	—	—
1–4 years	131	91	38	1	1	69	3	15	28	16
5–14 years	314	209	99	5	1	160	45	47	26	36
15 years and over	415	260	102	22	31	174	117	63	45	16
Cases by Origin of Infection										
Indigenous	214	116	98	—	—	68	68	31	16	31
Relapsing	86	48	32	1	5	15	14	10	30	17
Imported from outside Sarawak	113	71	18	7	17	69	28	9	5	2
,, ,, attack ph., Sarawak	90	41	28	13	8	43	37	9	1	—
,, ,, others ,, ,,	15	—	11	4	—	3	3	7	2	—
Induced	—	—	—	—	—	—	—	—	—	—
Introduced	40	2	36	2	—	5	3	10	10	12
Unclassified	305	284	17	1	3	201	13	50	35	6

TUBERCULOSIS CONTROL PROJECT

I. General

64. This project has already been referred to in general terms in Part II, Section VIII—Epidemic and Endemic Diseases.

II. Statistics

65. The project, which operated in the urban and peri-urban areas of Kuching and Sibu only during 1963 was extended to the Second and Fourth Divisions of the State during 1964, and the figures below refer to all these areas. Statistics available for 1961 and 1962 have been included for the sake of comparison.

Tuberculosis Statistics — 1961 to 1964

	1961	*1962*	*1963*	*1964*
1. *Population under control*				
(running total)	24,228	74,324	130,835	193,798
2. *Reservoir of infetcion*				
(1) Number on chemotherapy on December 31st	2,131	3,994	3,393	7,520
Number of new cases diagnosed during the year	805	1,211	814	1,256
(3) Number whose treatment was completed during the year	279	380	1,087	1,220
3. *Tuberculin testing*				
(1) First tests				
(i) Total number of tests carried out during the year	12,277	18,527	28,892	33,255
(ii) Total number of reactions under 10 mm. in diameter (negative reactors)	5,754	10,562	21,068	22,797
(iii) Total number of positive reactors	6,483	7,571	7,606	8,332
(iv) Total number not read for various reasons	40	394	218	1,126
(2) Retests				
(i) Total number of tests carried out during the year	—	—	4,232	3,510
(ii) Total number of reactions under 10 mm. in diameter (negative reactors)	—	—	1,938	943
(iii) Total number of positive reactors	—	—	2,294	2,426
(iv) Total number not read for various reasons	—	—	—	142
4. *B.C.G. Vaccination*				
(1) Total number vaccinated for the first time	11,826	15,906	29,790	32,020
(2) Total number revaccinated	—	—	1,896	694

5. *X-ray examination*

	1961	*1962*	*1963*	*1964*
(1) Total number of miniature exposures	15,359	43,009	32,398	36,127
(2) Total number of large films used ...	3,250	5,137	5,753	2,793
(3) Total number of persons X-rayed for the first time	12,402	34,910	26,721	17,700

6. *Microscopy*

(1) Total number of sputa examined (including repeats)	10,499	19,135	28,938	16,915
(2) Total number of positive sputa found (including repeats)	460	1,203	1,603	1,311

7. *House-to-House survey*

(1) Number of houses visited	80	3,445	3,904	6,541
(2) Population of houses visited ...	881	36,070	31,909	35,340
(3) Number of houses visited to trace contacts	288	117	93	479
(4) Number of contacts traced	—	1,116	595	870
(5) Number of contracts found positive	—	50	10	29

66. The following explanations are given to clarify the above figures:—

1. *Population under Control*

The figures are cumulative and the total of the year 1964 is 62,963 persons. The calculation for each year is obtained by first adding together the total number of persons falling into each of the following groups:—

(a) All positive reactors (first test).

(b) All those given B.C.G. (first vaccination).

(c) All those undergoing X-ray examination for the first time, less any positive reactors examined. The final figure is then obtained by adding the total for the previous year.

2. *Reservoir of infection*

The figures for those on chemotherapy include all cases diagnosed prior to the commencement of the project in an area, and actually under treatment. These old cases are automatically taken over as part of the activities of the project, when operations are extended to any new area. The figures shown previously in the Annual Report for 1963 referred to the Kuching and Sibu areas only and these are now amended to include the figures for the Second and Fourth Divisions also.

3. *Tuberculin testing*

This has been subdivided into first test and retests. During 1963, retests were carried out for the first time in a certain number of cases to assess the conversion rate after BCG vaccination.

There is a marked difference in the figures for negative reactors expressed as a percentage of the total number of first tests carried out in each of the four years. This is due to a change in policy in mid-1962, when it was decided, in the light of experience already gained, that any reaction under 10 mm. in diameter was unlikely to be due to human infection, and so should be read as a negative. Prior to this only those reactions under 5 mm. in diameter were considered negative.

4. *BCG vaccination*

These figures include the vaccination of all new-born infants in the areas covered by the project. The totals shown previously, in the Annual Report for 1963, have been amended accordingly.

5. *X-ray examination*

There is an increase in 1964 as compared to 1963 due to increased activities and coverage over a large area including the urban areas of the Second and Fourth Divisions.

6. *Microscopy*

The figures do not include examinations carried out in the other laboratories which are not directly connected with the project, including many positive results. Thus positive smears for new cases diagnosed in an area, prior to the commencement of activities there by the project staff, are not included. This explains the apparent difference in figures between 2(2) and 6(2) in the above table.

7. *House-to-House Survey*

The density per house of population is much lower than that of the previous years. This is due to the peri-urban and rural pattern of living where there is less crowding.

RURAL HEALTH IMPROVEMENT SCHEME

General

67. There are sixteen Rural Health Supervisors in the State, all in the First Division; ten in Serian District and six in the Bau District. Their areas of operation are located within the development areas and are chosen in consultation with the district administration and the divisional development organisation. In Serian District RHS are based at Kpg. Merang (7), Kpg. Tail (7), Kpg. Lanchang (6), Kpg. Tebakang (4), Kpg. Ampungan (4), Kpg. Merang Bedup (4), Kpg. Triboh (5), Kpg. Semukoi (5) and Kpg. Junggo Mawang (5). In Bau District the bases are Kpg. Kopid (6), Kpg. Seromah (6), Kpg. Krokong Gunong (8), Kpg. Sebuloh (6), Kpg. Sudoh (8) and Kpg. Kandis (4). The number in brackets indicates the number of *kampongs* in each area. One RHS is employed as a leave relief.

68. The duties of a Rural Health Supervisor includes frequent visits to *kampongs* where he sets up *kampong* committees for control of sanitation. He undertakes health education on latrines, water supplies, sanitary pig and poultry husbandry, refuse disposal, care of babies and personal hygiene. He suggests and discusses improvements suitable to the economics and geography of the *kampongs* concerned. He is usually well received and is progressively effecting necessary improvements. Medically, he is equipped with a combination of the Home Help and First Aid Kits and acts as malaria passive case detection unit. He liaises with personnel of the local council notably the health inspectors and midwives, with the home-helps, peace corps personnel and the Agricultural Extension Workers in the area. He is in constant contact with hospital assistant of static dispensary located in the area.

Training

69. On 30th September, 1964, ten supervisors passed out from the department's Rural Health Improvement Scheme School at Tarat, First Division. Twelve persons were selected for training at the beginning of the year, one failed to make the grade and one resigned before completion of course.

70. In December, 1964, ten trainees from all parts of the State were selected for training in 1965. They are:— One from First Division, four from Second Division, four from Third Division and one from Fourth Division. Nine of the trainees are recruited from redundant staff of the Malaria Eradication Project and one *ulu* dresser.

The Training School comes under the supervision of the First Divisional Medical Organisation. A full time training officer is stationed at Tarat who in addition to classroom teaching is also responsible for the day to day running of the school.

Statistics

71. The attached list provides some details of work achieved in each of the *kampongs* included in the scheme in Bau and Serian Districts of the First Division.

RURAL HEALTH IMPROVEMENT SCHEME

Summary of Activities in the Bau District of the First Division 1964

	Name of Kampong	*No. of Constructed*	*Refuse Disposal*	*Drainage*	*Water Supply*	*Fencing of pigs*
(1)	Kopid	41	Regular Advice	Regular Advice	Advised boiling	Yes
	Merimbeh	11	,,	,,	,,	No
	Podam	—	,,	,,	,,	No
	Peninjau Baru	23	,,	,,	,,	Yes
	Peninjau Lama	—	,,	,,	,,	No
	Pelaman Saga	—	,,	,,	,,	No
(2)	Seromah	16	,,	,,	Water Dam	Yes
	Seropak	7	,,	,,	Advised boiling	No
	Pelaman Skiat	1	,,	,,	,,	No
	Skio	24	,,	,,	,,	No
	Sogo	7	,,	,,	,,	No
	Segobang	—	,,	,,	,,	No
(3)	Krokong Gunong ...	10	,,	,,	Water Dam Advised boiling	Yes
	Batu Sipit	10	,,	,,	,,	Yes
	Pelaman Kam	2	,,	,,	,,	Yes
	Suba Buan	2	,,	,,	,,	No
	Pelaman Pisa	9	,,	,,	,,	Yes
	Suba Bau	—	,,	,,	,,	Yes
	Krokong Chinese ...	—	,,	,,	,,	Yes
	Blimbin	—	,,	,,	,,	No
(4)	Sebuloh	7	,,	,,	,,	Yes
	Grogo	—	,,	,,	,,	No
	Opar	3	,,	,,	,,	No
	Pelaman Sewa	—	,,	,,	,,	No
	Jugan	5	Burning	,,	,,	Yes
	Temawang	—	Regular Advice	,,	,,	No
	Stingang	—	,,	,,	,,	Yes
(5)	Sudoh	15	,,	,,	,,	Yes
	Atas	1	,,	,,	,,	No
	Tanjong	—	,,	,,	,,	Yes
	Duan	—	,,	,,	,,	No
	Tabong (Selalag) ...	—	,,	,,	,,	No
	Segong	—	,,	,,	,,	No
	Sagong	—	,,	,,	,,	No
	Tabong (Tabun) ...	—	,,	,,	,,	No
(6)	Kandis Lama	1	,,	,,	,,	No
	Kandis Baru	1	,,	,,	,,	No
	Sungei Pinang	—	,,	,,	,,	No
	Sinaiwan Malay... ...	—	,,	,,	,,	No

RURAL HEALTH IMPROVEMENT SCHEME

SUMMARY OF ACTIVITIES IN THE SERIAN DISTRICT OF THE FIRST DIVISION 1964

	Name of Kampong	*No. of Latrines Constructed*	*Refuse Disposal*	*Drainage*	*Water Supply*	*Fencing of pigs*
(7)	Merang Bazaar	—	Regular Advice	Regular Advice	Regular boiling	No
	Tian	3	,,	,,	,,	Yes
	Murut	18	,,	,,	,,	No
	Serawit	—	,,	,,	,,	No
	Turong	—	,,	,,	,,	No
	Kananit	—	,,	,,	,,	No
	Retoh	—	,,	,,	,,	No
(8)	Taie	—				
	Baru	30	,,	,,	,,	No
	Bunga	13	,,	,,	,,	No
	Pelaman Nyabet ...	—	,,	,,	,,	No
	Pelaman Bentang ...	—	,,	,,	,,	No
	Tarat	15	,,	,,	,,	No
	Pasir	—	,,	,,	,,	No
(9)	Lanchang S.P.G. and S.D.A.	94	,,	,,	,,	To some extent
	Tangga	—	,,	,,	,,	No
	Shipping	—	,,	,,	,,	Yes
	Tungan	—	,,	,,	,,	No
	Bantang	—	,,	,,	,,	No
10)	Tebakang Dayak ...	52	,,	,,	,,	Yes
	Tebakang Malay ...	2	,,	,,	,,	—
	Pichin	94	,,	,,	,,	Yes
	Krusen	20	,,	,,	,,	Yes
(11)	Ampungan	—	,,	,,	,,	No
	Sebangkoi	—	,,	,,	,,	No
	Seroban	—	,,	,,	,,	To some extent
	Rayan	4	,,	,,	,,	Yes
(12)	Merang Bedup	—	,,	,,	,,	—
	Lunggo	— No opera-	—	—	—	—
	Merian	— ration in	—	—	—	—
	Sungei Berok	— this area	—	—	—	—
(13)	Triboh	24	,,	,,	,,	Yes
	Blimbin	15	,,	,,	,,	No
	Remun	—	,,	,,	,,	No
	Lebor	—	,,	,,	,,	No
	Rasau	—	,,	,,	,,	No
(14)	Semukoi	3	,,	,,	,,	To some extent
	Antayan	—	,,	,,	,,	No
	Angkabang	9	,,	,,	,,	Yes
	Tampek	—	,,	,,	,,	No

MORBIDITY RETURN FOR IN-PATIENTS TREATED IN THE KUCHING, SIMANGGANG, SIBU, SARIKEI AND MIRI HOSPITALS

International Classification of Diseases (Intermediate List)

			Cases
A	1	Tuberculosis of respiratory system	1,234
A	2	Tuberculosis of meninges and central nervous system	18
A	3	Tuberculosis of intestines, peritoneum, and mesenteric glands	14
A	4	Tuberculosis of bones and joints	30
A	5	Tuberculosis, all other forms	45
A	6	Congenital syphillis	2
A	7	Early syphilis	4
A	8	Tabes dorsalis	1
A	9	General paralysis of the insane	12
A	10	All other syphilis	36
A	11	Gonoccoccal infection	20
A	12	Typhoid fever	248
A	13	Paratyphoid fever and other Salmonella infections	7
A	14	Cholera	120
A	15	Brucellosis (undulant fever)	—
A	16	Dysentery, all forms	706
A	17	Scarlet fever	—
A	18	Streptococcal sore throat	41
A	19	Erysipelas	13
A	20	Septicaemia and pyaemia	19
A	21	Diphtheria	64
A	22	Whooping cough	112
A	23	Meningococcal infections	16
A	24	Plague	1
A	25	Leprosy	30
A	26	Tetanus	52
A	27	Anthrax	—
A	28	Acute poliomyelitis	11
A	29	Acute infectious encephalitis	68
A	30	Late effects of acute poliomyelities and acute infectious encephalitis	36
A	31	Smallpox	—
A	32	Measles	57
A	33	Yellow fever	—
A	34	Infectious hepatitis	166
A	35	Rabies	—
A	36	Typhus and other rickettasial diseases	65
A	37	Malaria	78
A	38	Schistosomiasis	1
A	39	Hydatid disease	—
A	40	Filariasis	49
A	41	Ankylostomiasis	425
A	42	Other diseases due to helminths	1,238
A	43	All other diseases classified as infective and parasitic	467
A	44	Malignant neoplasm of buccal cavity and pharynx	45
A	45	Malignant neoplasm of oesphagus	11
A	46	Malignant neoplasm of stomach	82

A	47	Malignant neoplasm of intestine, except rectum	8
A	48	Malignant neoplasm of rectum	8
A	49	Malignant neoplasm of larynx	11
A	50	Malignant neoplasm of trachea, bronchus and lung, not specified as secondary	61
A	51	Malignant neoplasm of breast	22
A	52	Malignant neoplasm of cervix uteri	61
A	53	Malignant neoplasm of other and unspecified parts of uterus ...	10
A	54	Malignant neoplasm of prostate	5
A	55	Malignant neoplasm of skin	11
A	56	Malignant neoplasm of bone and connective tissue	28
A	57	Malignant neoplasm of all oher and unspecified sites	93
A	58	Leukaemia and aleukaemia	33
A	59	Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system	63
A	60	Benign neoplasm and neoplasms of unspecified nature	163
A	61	Non-toxic goitre	96
A	62	Thyrotoxicosis with or withour goitre	39
A	63	Diabetes mellitus	150
A	64	Avitaminosis and other deficiency state	223
A	65	Anaemias	365
A	66	Allergic disorders; all other endocrine, metabolic, and blood diseases	408
A	67	Psychoses	193
A	68	Psychoneuroses and disorders of personality	133
A	69	Mental deficiency	14
A	70	Vascular lesions affecting central nervous system	183
A	71	Non-meningococcal meningitis	33
A	72	Multiple sclerosis	—
A	73	Epilepsy	37
A	73	Inflammatory diseases of eye	279
A	75	Cataract	112
A	76	Glaucoma	11
A	77	Otitis media and mastoiditis	101
A	78	All other diseases of the nervous system and sense organs ...	136
A	79	Rheumatic fever	34
A	80	Chronic rheumatic heart disease	105
A	81	Arteriosclerotic and degenerative heart disease	181
A	82	Other diseases of heart	195
A	83	Hypertension with heart disease	82
A	84	Hypertension without mention of heart	172
A	85	Disease of arteries	12
A	86	Other diseases of circulatory system	66
A	87	Acute upper respiratory infections	641
A	88	Influenza	132
A	89	Lobar penumonia	121
A	90	Bronchopneumonia	444
A	91	Primary atypical, other, and unspecified pneumonia	90

			Cases
A	92	Acute bronchitis	501
A	93	Bronchitis, chronic and unqualified	198
A	94	Hypertrophy of tonsils and adenoids	65
A	95	Empyema and abscess of lung	67
A	96	Pleurisy	21
A	97	All other respiratory diseases	219
A	98	Diseases of teeth and supporting structures	126
A	99	Ulcer of stomach	209
A	100	Ulcer of duodenum	232
A	101	Gastritis and duodenitis	209
A	102	Appendictis	313
A	103	Intestinal obstruction and hernia	332
A	104	Gastro-enteritis and colitis, except diarrohea of the newborn	1,208
A	105	Cirrhosis of liver	202
A	106	Cholelithiasis and cholecystitis	100
A	107	Other diseases of digestive system	329
A	108	Acute nephritis	105
A	109	Chronic, other, and unspecified nephritis	111
A	110	Infections of kidney	160
A	111	Calculi of urinary system	135
A	112	Hyperplasia of prostate	62
A	113	Diseases of breast	12
A	114	Other diseases of genito-urinary system	971
A	115	Sepsis of pregnancy, childbirth, and the puerperium	58
A	116	Toxaemias of pregnancy and the puerperium	305
A	117	Haemorrhage of pregnancy and childbirth	398
A	118	Abortion without Sepsis or toxaemia	831
A	119	Abortion with sepsis	104
A	120	Other complications of pregnancy, childbirth, and the puerperium	844
A	121	Infections of skin and subcutaneous tissue	1,608
A	122	Arthritis and spondylitis	220
A	123	Muscular rheumatism and rheumatism unspecified	32
A	124	Osteomyelitis and periostitis	66
A	125	Ankylosis and acquired musculoskeletal deformitis	8
A	126	All other diseases of skin and musculoskeletal system	128
A	127	Spina bifida and menigocele	1
A	128	Congenital malformations of circulatory system	12
A	129	All other congenital malformations	92
A	130	Birth injuries	—
A	131	Postnatal asphyxia and atelectasis	—
A	132	Infections of the newborn	4
A	133	Haemolytic disease of the newborn	—
A	134	All other defined diseases of early infancy	244
A	135	Ill-defined diseases peculiar to early infancy, and immaturity, unqualified	52
A	136	Senility without mention of psychosis	—
A	137	Ill-defined and unknown causes or morbidity and mortality ...	914
AE	138	Motor vehicle accidents	42

AE 139	Other transport accidents	14
AE 140	Accidental poisoning	275
AE 141	Accidental falls	54
AE 142	Accident caused by machinery	34
AE 143	Accidents caused by fire and explosion of combustible material	61
AE 144	Accidents caused by hot substance, corrosive liquid, steam, and radiation	13
AE 145	Accidents caused by firearms	426
AE 146	Accidental drowning and submersion	66
AE 147	All other accidental causes	186
AE 148	Sucide and self-inflicted injury	79
AE 149	Homicide and injury purposely inflicted by other persons (not in war)	85
AE 150	Injury resulting from operations of war	7
AN 138	Fracture of skull	104
AN 139	Fracture of spine and trunk	48
AN 140	Fracture of limbs	483
AN 141	Dislocation without fracture	319
AN 142	Sprains and strains of joints and adjacent muscle	121
AN 143	Head injury (excluding fracture)	158
AN 144	Internal injury of chest, abdomen, and pelvis	22
AN 145	Laceration and open wounds	726
AN 146	Superficial injury, contusion and crushing with intact skin surface	168
AN 147	Effect of foreign body entering through orifice	415
AN 148	Burns	123
AN 149	Effect of poisons	79
AN 150	All other unspecified effects of external causes	9
	Total ...	26,934

OUT-PATIENT MOBIDITY RETURN 1964

International List Classification Number	*Disease or Condition*	*No. of cases treated in Government Hospital and Dispensaries*	*No. of cases treated in Non-Government Dispensaries*	*Total*
	Brought forward ...			
001-008	Tuberculosis of respiratory system	1,665	271	1,936
010-019	Tuberculosis-all other forms	306	66	372
020-029	Syphilis	108	15	123
030-035	Gonorhoea	789	46	835
040-042	Typhoid and paratyphoid fevers and other Salmonella infections	165	115	280
045-048	Dysentery, all forms	5,812	636	6,448
055	Diphtheria	64	14	78
056	Whooping Cough	4,221	523	4,744
060	Leprosy	34	1	35
061	Tetanus	17	17	34
073	Yaws	1,355	59	1,414
080-081	Acute Poliomyelitis and its late effects ...	13	1	14
085	Measles	3,415	807	4,222
087	Chickenpox	2,442	364	2,806
089	Mumps	16,341	1,017	17,358
095	Trachoma	439	15	454
110-117	Malaria	316	111	427
127	Filariasis	1,375	103	1,478
123-130	Worm Infestations	48,479	5,275	53,754
135	Scabies	6,281	876	7,157
036-138	All other diseases classed as infective or parasitic including fevers of unknown origin	30,281	4,383	34,664
140-239	Neoplasms (Tumours)	435	67	502
240-245	Allergic Disorders (asthma, urticaria) ...	12,180	1,774	13,954
250-254	Disease of Thyroid	602	178	780
260	Diabetes mellitus	344	9	353
280-286	Avitaminosis and other deficency states ...	22,090	2,254	24,344
290-293	Anaemias	18,936	1,889	20,825
300-318	Mental Disoders	283	29	312
370	Conjunctivities	13,320	1,451	14,771
371-388	Other diseases for eye	6,358	709	7,067
389	Blindness	156	15	171
390-398	Disease of ear	12,866	1,373	14,239
341-398	All other diseases of C.N.S. and sense organs	5,260	527	5,787
400-468	Disease of the Heart and Blood Vessels ...	2,233	340	2,573
470	Common Cold	70,902	9,153	80,055
473	Tonsillitis, acute	13,944	1,069	15,013
480-483	Influenza	8,029	1,270	9,299
490-493	Pneumonia	2,244	708	2,952
500-502	Bronchitis	33,319	2,902	36,221
471-527	Other respiratory diseases	41,707	2,325	44,032
540-545	Diseases of the stomach	19,501	2,372	21,873
560-561	Hernia	407	15	422
571-764	Diarrhoea and Enteritis	51,255	6,555	57,810
530-578	Other diseases of digestive system	42,178	3,012	45,190
580-587	Diseases of the Liver, Gall-bladder and Pancreas	888	151	1,039
600-609	Diseases of urinary system (excluding Gonorrhoea see 030-035)	5,944	596	6,540
610-637	Disease of genital organs	2,911	325	3,236
640-659 & 661-689	Complications of pregnancy	2,800	460	3,260
690-698	Boils, abscesses, cellulitis and other local skin infections	54,932	3,277	58,209
700-716	Other diseases of skin	37,978	3,772	41,750

Carried forward ...

International List Classification Number	*Disease of Condition*	*No. of cases treated in Government Hospital and Dispensaries*	*No. of cases treated in Non-Government Dispensaries*	*Total*
720-727	Arthritis and Rheumatism	14,961	1,709	16,670
730-744	All other diseases of musculoskeletal system	16,005	1,339	17,344
795	Diseases, cause unknown	17,401	761	18,162
E810-E845	Road accident	1,067	30	1,097
E850-E858	Water transport accidents	146	42	188
E916	Accidents caused by fire	1,621	258	1,879
E800-E999	Other accidents	25,841	2,474	28,315
E870-E895	Poisonings	251	31	282
	Total ...	685,213	69,936	755,149